HAJOCA
CATALOG

S
Staple Plumbing Goods

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HAJOCA CATALOG

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Staple Plumbing Goods

Ground Key Work, Brass Fittings and Ferrules, Iron Goods, Soil Pipe and Fittings, Domestic Water Supply Systems, Lead Goods, Wrought Pipe, Malleable and Cast Fittings, Valves and Heating Goods, Rubber Specialties, Plumbers' Tools.

HAINES, JONES & CADBURY CO.
MAKERS OF PLUMBING SUPPLIES
1130-1144 RIDGE AVENUE PHILADELPHIA

NEW YORK
101 PARK AVENUE

RICHMOND, VA.
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IRON WORKS, NORRISTOWN, PA

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PREFACE

THIS catalog, as its title implies, covers the subject of staple plumbing goods and is designed to fulfil a want long-felt by the Plumbing Industry for a handy, convenient, pocket-size book of reference suitable for desk use or field work.

Staple goods in constant demand have been completely illustrated and listed.

Price Lists have been arranged so as to invite constant use on estimating work or the checking of invoices.

When ordering goods, the quantities, sizes and plate numbers should be clearly stated as this will result in an intelligent and prompt filling of the order without the delay or inconvenience of further correspondence.

Our well-stocked warehouses at various points and the shipping facilities these centers enjoy permit us to serve a wide territory with promptness on such material as the Plumbing Industry is constantly requiring.

QUICK REFERENCE INDEX

(For General Index see end of book)

On becoming familiar with this index almost any article can be quickly located without reference to the more detailed General Index at the end of the book.

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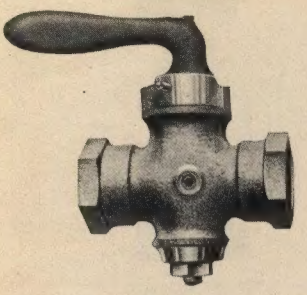


Plate S–2100

Lever handle stop and waste, rough, for iron pipe.

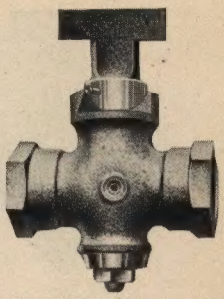


Plate S–2101

"T" handle stop and waste, rough, for iron pipe.

Sizes, inches.....	½	⅝	¾	1	1¼	1½	2
Plate S–2100, I. P., each	$1.80	$2.50	$3.05	$4.50	$7.60	$12.70	$22.00
Plate S–2100, L. P., "	2.00	2.80	—	—	—	—	—
Plate S–2100, L. and I. P., "	2.00	2.80	3.45	5.10	—	—	—
Plate S–2101, I. P., "	1.80	2.50	3.05	4.50	7.60	12.70	22.00
Plate S–2101, L. P., "	2.00	2.80	—	—	—	—	—

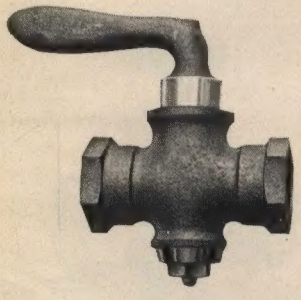


Plate S–2102

Lever handle stop, rough, for iron pipe.

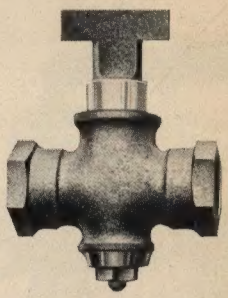


Plate S–2103

"T" handle stop, rough, for iron pipe.

Sizes, inches.....	⅜	½	⅝	¾	1	1¼	1½	2
Plate S–2102, I. P., each.	$1.70	$1.75	$2.45	$3.00	$4.40	$7.45	$12.45	$21.50
Plate S–2102, L. and I. P., each.	—	1.95	2.75	3.40	5.00	—	—	—
Plate S–2103, I. P., each.	—	1.75	2.45	3.00	4.40	7.45	12.45	21.50
Plate S–2103, L. P., each.	—	1.95	2.75	3.40	5.00	—	—	—
Plate S–2103, L. and I. P., each.	—	1.95	2.75	3.40	5.00	8.35	13.95	24.00

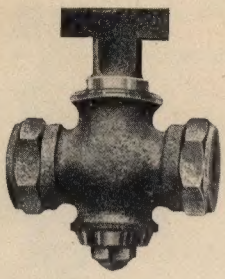


Plate S–2106

"T" handle roundway curb stop, rough, for iron pipe.

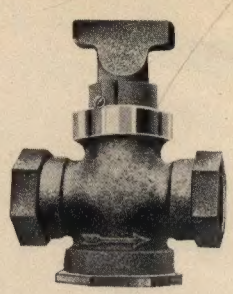


Plate S–2108

Inverted key "T" handle roundway curb stop, rough, for iron pipe.

Sizes, inches.....	½	⅝	¾	1	1¼	1½	2
Plate S–2106—I. P. each	$2.20	$3.00	$3.85	$6.15	$10.05	$16.45	$28.50
Plate S–2106—L. P. "	2.40	3.30	4.25	6.75	—	—	—
Plate S–2106—L.&I.P."	2.40	3.30	4.25	6.75	10.95	17.95	31.00
Plate S–2108—I. P. "	2.95	3.80	4.90	7.40	12.05	19.45	33.00

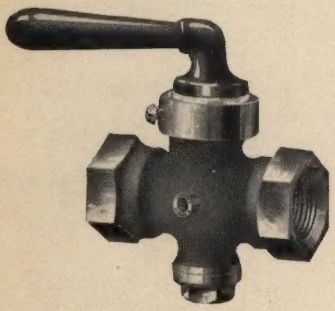


Plate S–2110

Lever or "T" handle guard cap stop and waste, rough, for iron pipe.

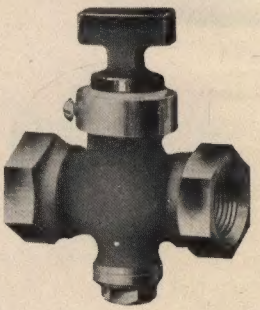


Plate S–2112

Lever or "T" handle guard cap stop, rough, for iron pipe.

Sizes, inches.....	½	⅝	¾	1
Plate S–2110—I. P. each.....	$1.80	$2.50	$3.05	$4.50
Plate S–2112—I. P. "	1.75	2.45	3.00	4.40

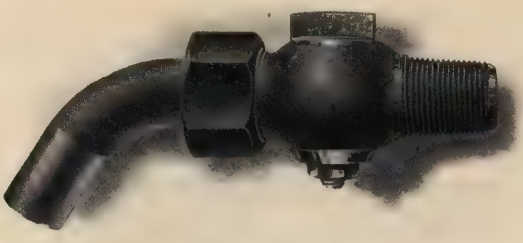


Plate S–2113

Corporation stop, rough, with bent coupling.

Sizes, inches.....	½	⅝	¾	1	1¼	1½	2
With coupling, each...	$1.60	$2.25	$2.85	$4.50	$10.00	$16.00	$26.50
Without coupling, each	1.45	1.95	2.50	4.00	9.25	15.00	25.00

Plate S–2114

Lead gooseneck with wiped joints

Sizes, inches.....	½	⅝	¾	1	1¼	1½	2
Length of lead pipe, inches...	18	18	18	18	24	30	36
Without corporation stop, each	$4.60	$5.40	$6.25	$9.20	$16.20	$25.50	$38.50

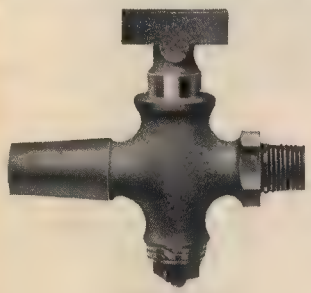


Plate S–2115

"T" handle hydrant stop, rough, with waste.

Sizes, inches.....	½	⅝
L. and ½-inch I. P., each	$2.00	$2.80
I.P., inside thread, each	1.80	—

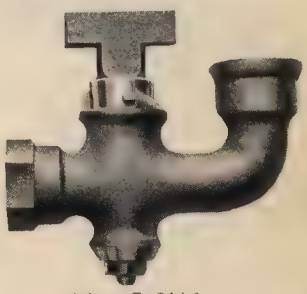


Plate S–2116

"T" handle hydrant stop, rough, for iron pipe with waste.

Sizes, inches	½	¾	1
Each.....	$2.15	$3.75	$5.40

Plate S–2117

"T" handle hopper stop, with coupling waste

Sizes, inches	½	⅝
L. P., each	$2.00	$2.80

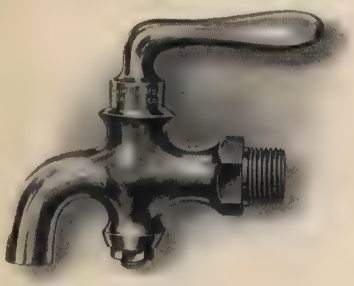


Plate S–2120

Brass lever handle ground key faucet, for iron pipe.

Plate S–2122

Brass lever handle ground key hose faucet, for iron pipe.

Sizes, inches	⅜	½	¾	1
Plate S–2120				
Rough, each	$1.70	$1.75	$2.45	$4.40
Polished, as shown, each	2.10	2.15	2.95	5.40
Plate S–2121 (not illustrated), screwed for wood				
Rough, each	—	2.15	2.90	—
Polished, each	—	2.55	3.40	—
Plate S–2122				
Rough, each	—	2.00	2.70	5.00
Polished, as shown, each	—	2.40	3.20	6.00

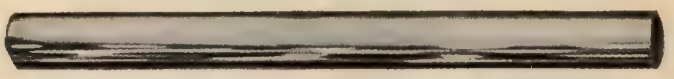


Plate S–2130
Brass and Copper Pipe

Hajoca seamless drawn brass and copper pipe, full iron pipe size and weight; in lengths 12 feet long, not threaded.

Brass and copper pipe are sold by the pound; sizes ¾-inch to 4-inch are sold at "base price"; other sizes at an advance over base.

Base price fluctuates with the market and will be furnished at any time on request; an additional charge will be made for cut lengths, also for threading or polishing brass or copper pipe.

Approximate weights per foot of brass and copper pipe:

Sizes, inches.....	⅛	¼	⅜	½	¾	1	1¼	1½	2	2½	3	3½	4
Brass, weight, lbs...	.25	.43	.62	.90	1.25	1.70	2.50	3.00	4.00	5.75	8.30	10.90	12.70
Copper, weight, lbs.	.26	.45	.65	.95	1.31	1.79	2.63	3.15	4.20	6.04	8.72	11.45	13.33

The above weights are subject to slight variation.

Plate S–2132
Brass close nipple

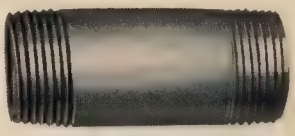


Plate S–2133
Brass shoulder nipple

Size Inches		L'gth Close	Close	Length, inches 1½	2	2½	3	3½	4	4½	5	5½	6
⅛	each	¾	$0.11	$0.13	$0.15	$0.17	$0.19	$0.21	$0.23	$0.25	$0.27	$0.29	$0.31
¼	each	⅞	.13	.16	.19	.22	.25	.28	.31	.34	.37	.40	.43
⅜	each	1	.15	.19	.23	.27	.31	.35	.39	.43	.47	.51	.55
½	each	1⅛	.23	.25	.30	.35	.40	.45	.50	.55	.60	.65	.70
¾	each	1⅜	.28	—	.35	.42	.49	.56	.63	.70	.77	.84	.91
1	each	1½	.37	—	.44	.53	.62	.71	.80	.89	.98	1.07	1.16
1¼	each	1⅝	.60	—	—	.75	.88	1.01	1.14	1.27	1.40	1.53	1.66
1½	each	1¾	.70	—	—	.90	1.05	1.20	1.35	1.50	1.65	1.80	1.95
2	each	2	1.00	—	—	1.20	1.40	1.60	1.80	2.00	2.20	2.40	2.60

For polished nipples, longer than close nipples, add 25% to above list.

BRASS FITTINGS

Iron Pipe Thread

Plate S–2134

Brass elbow

Sizes, inches.....	⅛	¼	⅜	½	¾	1	1¼	1½	2
Plate S–2134. Elbow									
Rough, each.....	$0.12	$0.15	$0.20	$0.28	$0.40	$0.63	$0.90	$1.20	$2.00
Polished, each....	.30	.35	.45	.56	.75	1.10	1.55	2.00	3.00
Nickel plated, each	.36	.42	.53	.65	.87	1.25	1.75	2.25	3.35
Reducing Elbow									
Rough, each.....	—	.19	.25	.35	.50	.80	1.10	1.50	2.50
Polished, each....	—	.44	.55	.70	.95	1.40	1.90	2.50	3.75
Nickel plated, each	—	.52	.65	.82	1.10	1.60	2.15	2.85	4.15

Elbows reducing more than two sizes, add 25% to the above list.

Plate S–2137

Brass 45° elbow

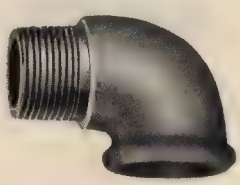


Plate S–2139

Brass service or street elbow

Sizes, inches.....	⅛	¼	⅜	½	¾	1	1¼	1½	2
Plate S–2137. 45° Elbow									
Rough, each.....	$0.16	$0.20	$0.25	$0.31	$0.40	$0.63	$0.90	$1.20	$2.00
Polished, each....	.38	.45	.55	.66	.85	1.23	1.70	2.20	3.25
Nickel plated, each	.45	.53	.65	.78	1.00	1.43	1.95	2.55	3.65
Plate S–2139. Service Elbow									
Rough, each.....	.25	.27	.33	.48	.63	.85	1.50	2.00	3.25
Polished, each....	.47	.52	.63	.83	1.08	1.45	2.30	3.00	4.50
Nickel plated, each	.54	.60	.73	.95	1.23	1.65	2.55	3.35	4.90

BRASS FITTINGS

Iron Pipe Thread

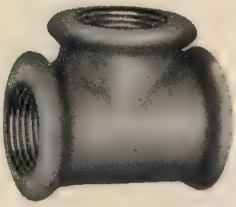


Plate S–2142
Brass T

Plate S–2144
Brass cross

Sizes, inches	⅛	¼	⅜	½	¾	1	1¼	1½	2
Plate S–2142. Tee									
Rough, each	$0.17	$0.21	$0.28	$0.40	$0.55	$0.85	$1.25	$1.70	$2.80
Polished, each	.42	.49	.63	.80	1.05	1.50	2.15	2.80	4.20
Nickel plated,each	.50	.58	.75	.93	1.22	1.70	2.45	3.15	4.65
Reducing Tee									
Rough, each	—	.25	.35	.50	.70	1.05	1.55	2.10	3.50
Polished, each	—	.60	.77	1.00	1.30	1.85	2.65	3.50	5.25
Nickel plated,each	—	.72	.90	1.15	1.50	2.10	3.00	3.95	5.85
Plate S–2144. Cross									
Rough, each	.25	.30	.40	.55	.80	1.25	1.80	2.40	4.00
Polished, each	.60	.70	.90	1.10	1.50	2.20	3.10	4.00	6.00
Nickel plated,each	.72	.84	1.05	1.30	1.75	2.50	3.50	4.50	6.70

Tees reducing more than two sizes, add 25% to above list.

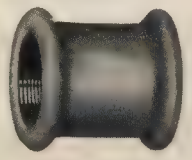


Plate S–2146
Brass coupling

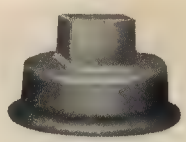


Plate S–2148
Brass cap

Sizes, inches	⅛	¼	⅜	½	¾	1	1¼	1½	2
Plate S–2146. Coupling		—							
Rough, each	$0.10	$0.13	$0.17	$0.25	$0.37	$0.55	$0.80	$1.00	$1.60
Polished, each	.24	.28	.36	.46	.63	.90	1.30	1.60	2.35
Nickel plated,each	.29	.33	.42	.53	.72	1.00	1.45	1.80	2.60
Reducing Coupling									
Rough, each	—	.15	.20	.28	.40	.60	.90	1.10	1.75
Polished, each	—	.35	.45	.56	.75	1.05	1.55	1.90	2.75
Nickel plated,each	—	.42	.53	.65	.87	1.20	1.75	2.15	3.10
Plate S–2148. Cap									
Rough, each	.10	.13	.16	.20	.30	.42	.60	.80	1.25
Polished each	.20	.25	.31	.40	.55	.77	1.10	1.50	2.25
Nickel plated,each	.23	.29	.36	.47	.63	.89	1.25	1.75	2.60

Couplings reducing more than two sizes, add 25% to above list.

BRASS FITTINGS

Iron Pipe Thread

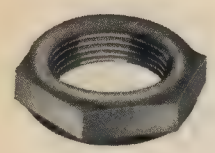


Plate S–2150
Brass locknut

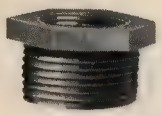


Plate S–2152
Brass bushing

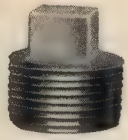


Plate S–2154
Brass plug

Sizes, inches	⅛	¼	⅜	½	¾	1	1¼	1½	2
Plate S–2150. Locknut									
Rough, each	$0.10	$0.10	$0.12	$0.15	$0.20	$0.28	$0.40	$0.55	$0.80
Polished, each	.24	.25	.32	.40	.50	.65	.85	1.10	1.60
Nickel plated, each	.29	.30	.39	.48	.60	.77	1.00	1.38	1.85
Plate S–2152. Bushing									
Rough, each	—	.10	.12	.15	.22	.35	.50	.70	1.00
Polished, each	—	.22	.27	.35	.47	.70	1.00	1.40	2.00
Nickel plated, each	—	.26	.32	.42	.55	.82	1.15	1.65	2.35
Plate S–2154. Plug									
Rough, each	.08	.10	.12	.15	.20	.30	.45	.60	.95
Polished, each	.23	.30	.37	.43	.55	.75	1.00	1.30	1.95
Nickel plated, each	.28	.37	.45	.52	.67	.90	1.20	1.55	2.30

Bushings reducing more than two sizes, add 25% to above list.

Plate S–2156
Brass return bend, close pattern

Plate S–2158
Brass return bend, open pattern

Sizes, inches	⅜	½	¾	1	1¼	1½	2
Plate S–2156. Close							
Rough, each	$0.55	$0.70	$1.00	$1.25	$1.80	$2.50	$4.25
Polished, each	1.30	1.55	2.05	2.65	3.75	4.90	7.25
Nickel plated, each	1.55	1.85	2.40	3.10	4.40	5.70	8.25
Plate S–2158. Open							
Rough, each	.60	.80	1.10	1.40	2.15	3.00	4.75
Polished, each	1.35	1.65	2.15	2.80	4.10	5.40	7.75
Nickel plated, each	1.60	1.95	2.50	3.25	4.75	6.20	8.75

Plate S–2160
90° Flush pipe ell

Plate S–2161
45° Flush pipe ell

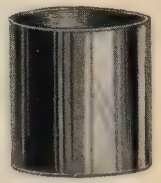


Plate S–2162
Flush coupling

Sizes, inches	1¼ O. D.	1½ O. D.	2 O. D.
Plate S–2160:			
Nickel-plated 90° ell, fine thread, each	$0.58	$0.66	$1.28
Plate S–2161:			
Nickel-plated 45° ell, fine thread, each	.52	.58	1.28
Plate S–2162:			
Nickel-plated flush coupling, fine thread, each	.66	.74	.92

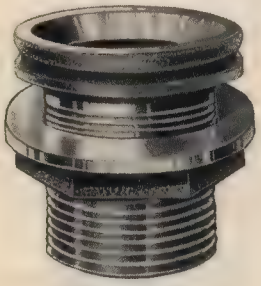


Plate S–2164

Plate S-2164. Hajoca brass thimble and locknut for flush valve.
Each $1.00

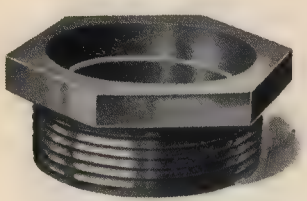


Plate S–2168

Brass solder bushing, with outside thread for iron pipe, and reamed inside for O. D. tubing.

Size, I. P.	Size, O. D.	Each
1¼	1¼	$0.25
1½	1¼	.35
1½	1½	.35
2	2	.60

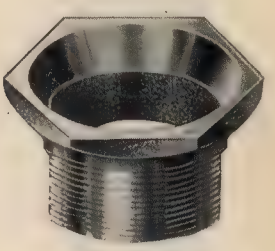


Plate S–2169

Ideal brass solder nipple for 1½-inch I. P. outside thread with inside reamed for 1½-inch lead pipe.

Each $0.35

Plate S–2170

Brass ground joint hexagon union

Plate S–2176

Brass solder union

Sizes, inches.....	⅛	¼	⅜	½	¾	1	1¼	1½	2
Plate S–2170. Union									
Semi-finished	$0.45	$0.55	$0.75	$0.95	$1.30	$1.75	$2.50	$3.00	$4.50
Polished	.50	.60	.85	1.05	1.40	1.90	2.75	3.25	5.00
Nickel plated	.60	.72	1.02	1.26	1.68	2.28	3.30	3.90	6.00
Plate S–2176.									
Solder Union	—	—	.40	.50	.65	.85	1.10	1.25	1.75

Plate S–2180

Brass solder nipple with outside thread.

Plate S–2182

Brass solder nipple with inside thread.

Sizes, inches	⅜	½	¾	1	1¼	1½	2	2½	3	4
Plates S–2180 or S–2182	$0.30	$0.35	$0.50	$0.70	$0.90	$1.25	$1.75	$3.00	$4.00	$7.00

Plate S–2185

Plate S–2185. Brass ferrule, tapered end.
2 x 1½ x 3½ inches long, each $0.75

Plate S–2186. Brass ferrule, straight.

Size and length, inches	Each
2 x 3½	$0.75
3 x 4	1.30
4 x 4	1.55
4 x 4½	2.00

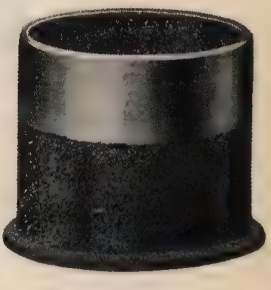


Plate S–2186

Plate S–2187

Plate S–2187. Brass ferrule for extra heavy pipe, with tapered end.

Size and length, inches	Each
2 x 1½ x 4	$0.95
2 x 4	.95
4 x 4½	2.45

Plate S–2192

Finished brass trap screw

4-inch, each $1.75

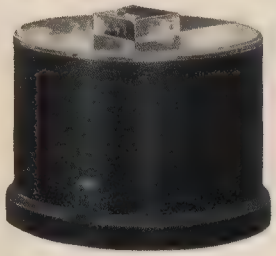


Plate S–2194

Iron body trap screw ferrule with brass flange cap

Size, inches	2	3	4	5	6
Standard, each	$0.30	$0.40	$0.50	$0.90	$1.20

Plate S–2195

Iron body trap screw ferrule with brass tapered plug

Size, inches	2	3	4	5	6
Standard, each	$0.30	$0.40	$0.50	$0.90	$1.20
Extra heavy, each	**.60**	**.80**	**1.00**	**1.80**	**2.40**
New York Regulation, each	—	—	1.50	—	—
Standard, countersunk nut, each	—	.80	1.00	—	—
Extra Heavy, countersunk nut, each	—	**1.20**	**1.50**	—	—

Plate S–2200

No. 2 nickel-plated chain stay

Each..... $0.35

Plate S–2204

Nickel-plated chain stay for lavatory faucet hole

No. 8, diameter, $1\frac{3}{4}$", each $0.50

Plate S–2206

Nickel-plated cover for lavatory faucet hole

Diameter, 2 inches, each.. $0.35

Plate S–2210

Nickel-plated extension tube for lengthening waste and vent pipes

$1\frac{1}{4}$-inch, 6 inches long, each $0.50

$1\frac{1}{2}$- " " " " .60

Plate S–2210 is used for lengthening waste and vent pipes by slipping the outlet into the swedged end and tacking with solder. The device will be found especially convenient for use on tail pieces of sink strainers wherever the sink is set higher than 30 inches and the trap is not long enough to reach the floor.

Plate S–3020

Hajoca No. 945 cast iron "S" trap with outlet threaded for iron pipe and with brass slip joint nut on inlet.

Sizes, inches	1½	2
Outlet threaded for	1½ I.P.	2 I.P.
Painted, each	$1.80	$2.70
Galvanized, each	2.45	3.70

Plate S–3022

Hajoca No. 932 cast iron "P" trap with outlet threaded for iron pipe and with brass slip joint nut on inlet.

Sizes, inches	1½	2
Outlet threaded for	1½ I.P.	2 I.P.
Painted, each	$1.45	$2.45
Galvanized, each	1.95	3.20

Cast iron sink traps are well suited for use where moderate cost and great strength to stand rough service conditions are required.

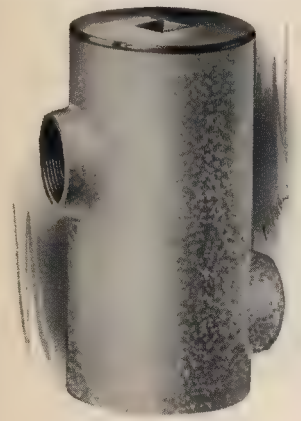


Plate S–3024

Hajoca cast iron drum trap, 4x9 inches with nickel-plated cover and two openings tapped for 1½-inch iron pipe.

Painted, each.....$2.50
Galvanized, each.....$3.50

Plate S–3026

Hajoca nickel-plated funnel connection for sink collar.

With 1¼ or 1½-inch outlet tube, each.....$0.90

For connecting sinks with lead pipe collar on outlet to any style of brass trap.

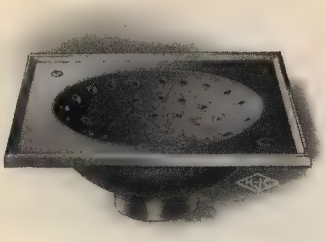


Plate S–3330

Hajoca No. 931 plain cast iron cesspool.

Sizes, inches	10 x 10	12 x 12
Each	$1.20	$1.40

Plate S–3331

Hajoca No. 934 cast iron cesspool with outlet to caulk over 4-inch soil pipe.

12 x 12 inches, each $2.10

On Plate S-3331 the outlet caulks over 4-inch soil pipe to which it is held in place by three set screws. The grate is bolted to the body inside the outer flange and can be removed without breaking the joint between the body and concrete or other floor.

Plate S–3332

Plain cast iron combination cesspool and rain leader with outlet to caulk into 4-inch hub.

Each $3.35

This fitting eliminates two joints and has been approved by the Philadelphia Bureau of Health.

Plate S–3333

Hajoca No. 976 extra heavy cast iron stall cesspool $8\frac{1}{2}$ x $8\frac{1}{2}$ inches, 6 inches deep with outlet to caulk over 3-inch soil pipe (no inside grate).

Each $2.25

Plate S–3334

Hajoca No. 949 cast iron round top cesspool with hinged strainer; diameter, 9 inches.
Outlet, inches..... 4
Each.....$1.90

Plate S–3336

Hajoca No. 951 cast iron round top cesspool with hinged strainer and side outlet; diameter, 9 inches.
Outlet, inches..... 4
Each.....$2.50

On Plates S-3334 and S-3336 the outlet has a bead to caulk into 4-inch soil pipe.

Plate S–3342

Hajoca No. 65 cast brass cesspool. 6 x 6 inches, tapped for 2-inch iron pipe, each.....$5.00

The strainer is countersunk and can be removed when necessary. This cesspool is well adapted for use as a refrigerator drain.

Plate S–3344

Hajoca No. 964 cast iron refrigerator drain.

Diameter, 9 inches; outlet is tapped for 1½-inch iron pipe.
Plain, each.....$1.40
Galvanized, each..... 1.85

On Plate S-3344 the drain is made with hinged lid, so that the bell trap and waste pipe can be easily cleaned. The lid can be lifted by attaching a wire or chain to the eye in the top without moving the refrigerator.

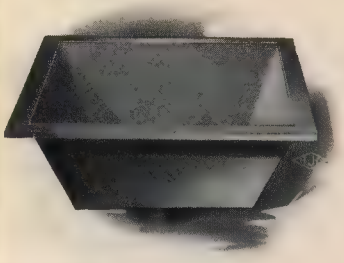


Plate S–3350

Hajoca No. 957 cast iron hydrant cesspool.

10 x 10 inches, each	$1.30
12 x 12 inches, each	1.70
14 x 14 inches, each	2.20
16 x 16 inches, each	2.60
18 x 18 inches, each	3.30

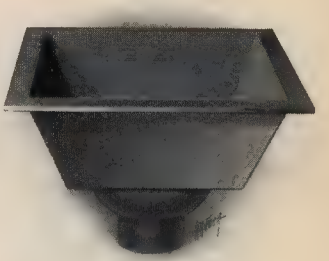


Plate S–3352

Hajoca No. 958 cast iron hydrant cesspool with bell trap.

12 x 12 inches, each	$2.70
14 x 14 inches, each	3.40
16 x 16 inches, each	3.60
18 x 18 inches, each	4.50

Hajoca cast iron cesspools are made in our foundry at Norristown, Pa.; a high grade of iron is used, the patterns are heavy and the castings are clean and smooth.

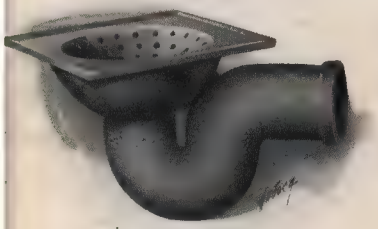


Plate S–3354

Hajoca No. 932 cast iron plain cesspool with "P" trap for 4-inch soil pipe.

12 x 12 inches, each	$5.00

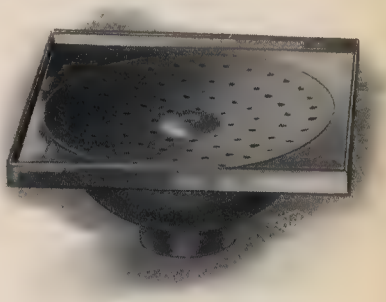


Plate S–3356

Hajoca No. 938 cast iron bell trap cesspool.

10 x 10 inches, each	$1.70
12 x 12 inches, each	2.40

Plate S-3354 is intended for cellar floors, and other places where it is desired to run the waste pipe horizontally. It insures a tight joint between cesspool and trap, and the outlet is long enough to be easily caulked. The outlet is near the ground level, requiring only a shallow trench and saving a large amount of digging.

Plate S–3358

Hajoca No. 940 bell trap cesspool with hinged top.

Size, inches	Plain cast iron	Iron body, brass top	All brass, pol. top
6x6,	$1.00	$5.45	$7.25
6x6, outlet 2" I.P. inside thread	1.40	6.45	8.25
8x8,	1.60	—	—
9x9,	1.90	10.50	14.00
10x10,	3.20	—	—
13x13,	3.40	—	—

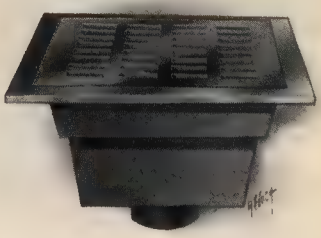


Plate S–3360

Hajoca No. 974 extra heavy cast iron stable cesspool, with inside grate and bell trap.

12 x 12 inches, each.....$4.50
14 x 14 inches, each..... 6.50
16 x 16 inches, each..... 7.80

Plate S-3361 (not illustrated; see Plate S-3360) **Hajoca No. 974** extra heavy cast iron stable cesspool, with inside grate, Philadelphia Regulation, with outlet to caulk over 4-inch soil pipe (no bell trap).

12 x 12 inches, each.....$6.00
14 x 14 inches, each..... 7.70

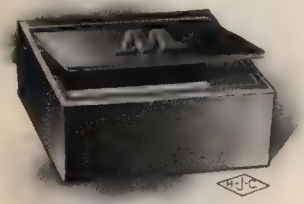


Plate S–3362

Hajoca No. 902 cast iron stop box.

6 x 6 inches, hinged, each.....$0.50
6 x 6 inches, hinged, extra heavy, each..... .80
8 x 8 inches, hinged, each..... .90

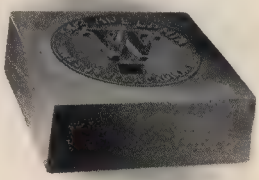


Plate S–3363

Hajoca No. 903 "Adelphia" cast iron stop box.

6 x 6 inches, each.....$0.80

Plate S-3363 complies with the requirements of the Philadelphia Bureau of Health.

Plate S–3364

Hajoca cast iron street washer box.
10 x 10 inches, each..... $1.40

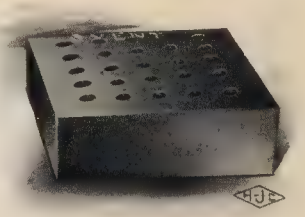


Plate S–3366

Hajoca No. 902 cast iron vent box.
6 x 6 inches, each..... $0.35
6 x 6 inches, extra heavy, each. .50
8 x 8 inches, each..... .60

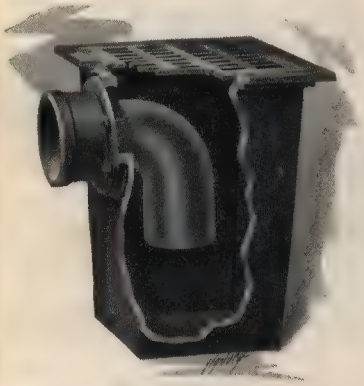


Plate S–3368

Hajoca extra heavy cast iron sand trap with hub to suit 4-inch soil pipe.

14 x 14 x 18 inches deep, each $14.00
Same, with brass cleanout plug in outlet bend..... 15.00

This trap has a positive seal and prevents sand and other solid waste matter from entering the drainage system. It intercepts solid matter only, allowing liquid waste freely to enter the waste pipe. The trap when filled with sediment can be easily cleaned out by removing the grate. It is indispensable for garages, carriage houses, bath houses, stables, dairies, etc.

Plate S–3370

Hajoca No. 910 "Adelphia" cast iron vent box; diameter of top, 8 inches; outlet fits over 4-inch soil pipe.

Each..... $2.00

This vent box complies with the requirements of the Philadelphia Bureau of Health. The total area of the openings in the top equals three-quarters of the area of the soil pipe.

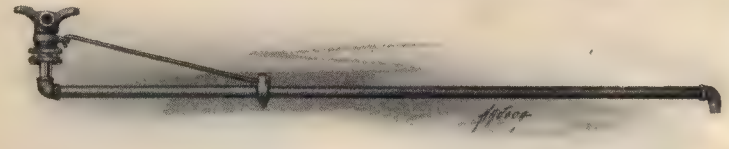


Plate S–3372

Hajoca overhead auto or carriage washer with all brass self-grinding body, iron ceiling plate and $\frac{3}{4}$-inch x 5-foot iron extension pipe and brace, each $10.00

This washer is a most practical and welcome accessory for the garage and stable. It is a time saver and requires only a small quantity of hose which does not snarl up or lie on the floor. The vehicle can be played upon from any point by merely revolving the arm. The hose and nozzle are not included with the above.

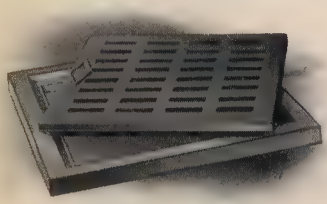


Plate S–3382

Hajoca extra heavy cast iron cesspool grate and frame.

$14\frac{1}{4}$ x $14\frac{1}{4}$ inches outside with grate $12\frac{1}{4}$ inches square, each	$ 3.50
$31\frac{1}{2}$ x 19 inches outside with grate 30 x 18 inches, each	28.50

Plate S–3384

Hajoca extra heavy cast iron cesspool grate and frame.

18 x 18 inches outside with grate 14 inches square, each	$12.25

Plate S–3386

Hajoca cast iron manhole frame and cover.
33 x 21 inches outside; flange, 39 x 27 inches; depth, 4 inches, each .. $25.00
Plates S–3382, S–3384 and S–3386 are extra heavy and suitable for severe service.

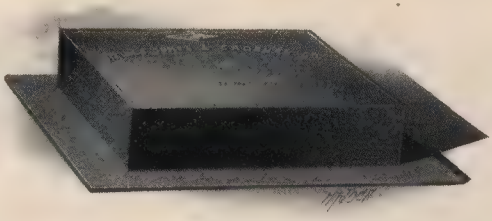


Plate S–3388

Hajoca cast iron square manhole frame and cover.

Nominal sizes, inches	Size of opening, inches	Size of top, inches	Size of outer flange, inches	Depth over all, inches	Each
12 x 12	11¾ x 11¾	12½ x 12½	16 x 16	3	$ 4.00
16 x 16	15¾ x 15¾	16½ x 16½	22 x 22	4	8.50
18 x 18	17¾ x 17¾	18½ x 18½	24 x 24	4½	9.25
24 x 24	24 x 24	25 x 25	31 x 31	4½	14.25

These manholes are not heavy enough for roadway use.

Plate S–3390

Hajoca extra heavy cast iron round manhole frame and cover, with flange.

Diameter of opening, inches	Diameter of top, inches	Outside diameter of flange, inches	Depth, inches	Each
13	14½	17	3½	$ 6.50
22	23½	27½	3½	15.50

Plate S–3390 is extra heavy and suitable for severe use.

Plate S-3391 (not illustrated). **Hajoca** cast iron round manhole frame and cover, with flange.

Diameter of opening, inches	Diameter of top, inches	Outside diameter of flange, inches	Depth, inches	Each
22	23½	27½	3½	$10.00

Plate S–3391 is not heavy enough for roadway use.

Plate S–3940

Plate S-3940. No. 391 porcelain enameled tall oval flushing rim hopper with seat with iron reinforcing plate, galvanized pressure tank, galvanized flush pipe, brass supply and flush valves and galvanized valve casing extending 30 inches below floor.

As described (not including soil pipe and trap). $24.00

Plate S-3942. Hajoca porcelain enameled inside short oval flushing rim hopper with self-raising seat with weight and iron reinforcing plate, painted hopper "S" trap with hand hole, No. 866 gloss finish plain antique oak tank with 10-oz. copper lining, concealed wall hanger, chain and pull, and 1¼-inch brass offset flush pipe with slip joint ell.

As described..... $35.00

The No. 391 closet is simple and durable, is very easy and economical to install, and is frost-proof. The working parts are inclosed in a casing pipe from which they may be readily withdrawn from above the floor for repairs. The valve can be buried in the ground and requires no pit. There are no cup leathers or ring washers.

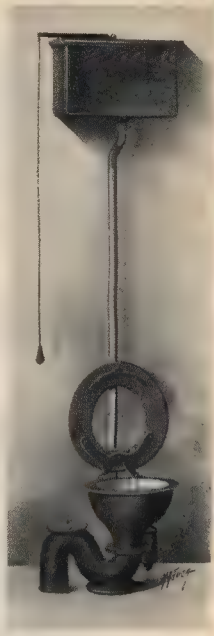


Plate S–3942

The pressure tank furnished with the No. 391 outfit saves waste of water and insures a good strong flush.

Plate S–3944

Plate S-3944. Porcelain enameled inside tall oval flat flushing rim hopper, with self-raising seat with weight and iron reinforcing plate, and bent flush coupling.

As described..... $ 9.00

Same, except with roll flushing rim..... 10.00

Plate S-3946. Porcelain enameled inside short oval flat flushing rim hopper with self-raising seat with weight and iron reinforcing plate and bent flush coupling.

As described (trap extra)..... $9.00
Same, except with roll flushing rim. 10.00
For hopper traps, add..... 4.25

Plate S–3946

Plate S–3948

Plate S-3948. Porcelain enameled inside short oval roll flushing rim hopper with bent flush coupling.

As described..... $6.00
Same, except with flat flushing rim..... 5.00

Plate S–3950

Porcelain enameled inside Philadelphia hopper with flange recessed for floor plate.

As described..... $4.50

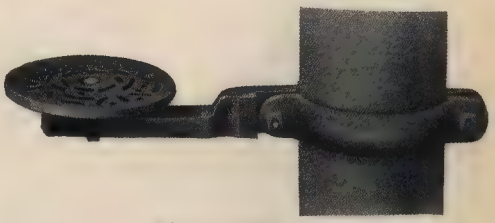


Plate S–3952

Adjustable iron hopper valve rest, each..... $1.00

The clamp fits 4-inch soil pipe.

Plate S–3954

Compression ball cock for iron pipe.

1 -inch, each	$ 3.75
1¼-inch, each	6.00
1½-inch, each	8.00
2 -inch, each	14.00

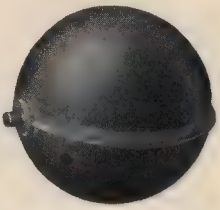


Plate S–3956

Copper tank ball.

4 x 5-inch, each	$0.45
5-inch, each	0.60
6-inch, each	0.75
8-inch, each	1.75
10-inch, each	3.25
12-inch, each	5.50

Plate S–3957

Brass rod for tank ball

¼-inch semi-annealed rod, 9 or 11 inches long, each $0.20

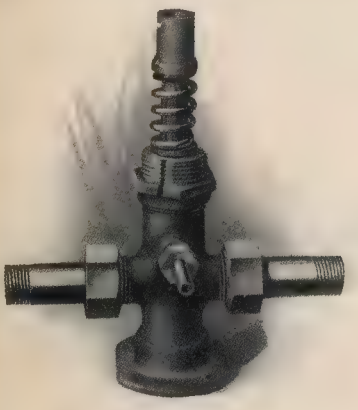


Plate S–3958

Hajoca spring hopper valve with connection for iron pipe.
Each $3.50

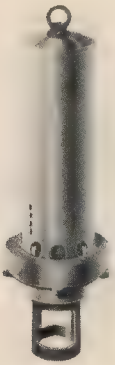


Plate S–3960

Hajoca No. 2 syphon valve, brass cone with brass stand pipe and "square" washer.
Each $4.00

HAJOCA CAST IRON SOIL PIPE

Every Length Tested.

THE real cost of soil pipe is the price per length installed after all freight, labor and installation outlays have been charged against it. On this basis **Hajoca** Soil Pipe has been pronounced by engineers and plumbers as both dependable and economical. This results from the following features:

Plate S–4000
Testing Hajoca soil pipe

1. **Hajoca** Soil Pipe is made of soft gray iron, which is hard to break, but cuts easily.

2. It is of uniform thickness.

These two qualities reduce to a minimum the risk of splitting when cutting, so that short pieces can be successfully cut off. This saving in breakage and in time is a big item to the plumber.

3. It is guaranteed *full weight* and *full length* and has full-sized opening.

4. The hubs are properly proportioned, and the shoulder at the hub end is made so that it will not crack easily in shipment or in handling.

5. The spigot end is heavy, and has a wide bead, thus requiring less lead for the joint, and making a better joint than a narrow bead will make.

6. The castings are clean, smooth, straight and round. The quality of the metal is kept uniform by careful chemical analysis.

7. Every length is tested. The method of testing is shown in the illustration, the actual hydraulic pressure being at least sixty pounds. The test is applied to *every single length* of soil pipe before it leaves our foundry — there are *no* exceptions, and **Hajoca** Pipe does not leak.

We break up and remelt every piece which will not stand the test. By this means the plumber is saved the cost of locating and replacing defective lengths of pipe in the stack or drain. Note also that pipe which is not uniform in thickness will split open on our testing machine.

8. Look for this mark

It is cast in every length, and is your guarantee of good goods.

Hajoca Soil Pipe and Fittings insure superior quality at a low cost.

Plate S–4002

Massachusetts Institute of Technology, Cambridge, Massachusetts (Main Group)
Equipped with Hajoca Soil Pipe

LIST PRICES OF CAST IRON SOIL PIPE AND FITTINGS

Adopted March 8, 1915 and January 3, 1916, with revisions.

Cast Iron Soil Pipe—Sizes, inches	2	3	4	5	6
Standard, Single Hub, per 5-foot length	$1.30	$1.75	$2.30	$2.90	$3.50
" Double " " " "	1.40	1.85	2.40	3.10	3.70
Medium, Single Hub, per 5-foot length	1.70	2.30	3.00	4.40	5.40
" Double " " " "	1.80	2.40	3.15	4.60	5.65
Extra Heavy, Single Hub, per 5-foot length	**$2.00**	**$3.10**	**$4.20**	**$5.50**	**$6.50**
" " Double " " " "	**2.10**	**3.25**	**4.40**	**5.70**	**6.80**

	Standard					Extra Heavy				
Cast Iron Soil Fittings–Sizes, inches	2	3	4	5	6	2	3	4	5	6
Bands, Pipe	$0.90	$1.00	$1.15	$1.35	$1.60	$1.10	$1.25	$1.40	$1.70	$2.00
Bends, ¼	.40	.55	.70	1.05	1.30	.55	.70	.85	1.25	1.55
" ⅛	.45	.80	.80	1.05	1.30	.60	1.00	1.00	1.25	1.55
" ⅙	.40	.60	.60	1.05	1.30	.45	.75	.75	1.25	1.55
" ⅛	.35	.45	.60	.80	1.05	.40	.55	.75	1.00	1.25
" ⅟₁₆	.35	.50	.60	.80	1 00	.40	.70	.70	1.00	1.25
" Double Hub, ¼, ⅙, ⅛, ⅟₁₆	.75	.95	1.20	1.85	2.45	.90	1.15	1.40	2.30	3.05
" ¼ with 2" heel or side inlet	1.25	1.25	1.25	3.70	4.30	1.55	1.55	1.55	4.60	5.40
" ¼ " 3" " " " "	—	1.25	3.10	3.70	4.30	—	1.55	3.85	4.60	5.40
" ¼ " 4" " " " "	—	—	3.10	3.70	4.30	—	—	3.85	4.60	5.40
" Long, ¼, ⅕, ⅙, ⅛—12"	.90	1.50	1.25	3.70	4.30	1.10	1.85	1.55	4.60	5.40
" " " " " "—18"	1.05	1.85	1.50	4.30	5.00	1.30	2.30	1.85	5.40	6.15
" " " " " "—24"	1.50	2.25	2.75	4.90	5.50	1.85	2.75	3.40	6.15	6.90
" " " " " "—30"	—	—	3.85	—	—	—	—	4.80	—	—
" " " " " "—36"	—	—	4.90	5.25	—	—	—	6.15	6.55	—
" California, ¼—12" long	—	—	1.25	—	—	—	—	1.55	—	—
" " "—18". "	—	—	1.50	—	—	—	—	1.90	—	—
" " "—24". "	—	—	2.75	—	—	—	—	3.45	—	—
" Return, Single Hub	1.25	1.50	1.70	2.45	3.10	1.55	1.85	2.00	3.05	3.85
" " Double Hub	1.35	1.60	1.75	2.75	3.40	1.70	2.00	2.20	3.40	4.25
" Short Sweep	.60	.90	1.15	1.55	2.50	.75	1.10	1.40	1.85	3.10
" Long Sweep	.75	.95	1.25	1.70	2.75	.90	1.15	1.55	2.00	3.40

LIST PRICES OF CAST IRON SOIL PIPE AND FITTINGS—Continued

Cast Iron Soil Fittings-Sizes, inches	Standard 2	3	4	5	6	Extra Heavy 2	3	4	5	6
BRANCHES:										
San. T, T, Y and ½-Y with 2" branch	$0.55	$0 75	$0.85	$1.20	$1.80	$0.75	$0.90	$1.10	$1.45	$2.15
" " " " " " " " 3" "	—	.85	1.00	1.25	1.80	—	1.10	1.25	1.55	2.15
" " " " " " " " 4" "	—	—	1.15	1.40	1.80	—	—	1.40	1.70	2.15
" " " " " " " " 5" "	—	—	—	1.65	2.00	—	—	—	2.00	2.45
" " " " " " " " 6" "	—	—	—	—	2.00	—	—	—	—	2.45
Long San. T, T, Y and ½-Y–12" long	1.20	1.45	2.80	—	—	1.50	1.80	3.50	—	—
" " " " " " " " –18" "	2.00	2.60	3.50	4.20	4.90	2.45	3.25	4.30	5.25	6.15
" " " " " " " " –24" "	2.25	3.10	4.10	4.95	5.80	2.75	3.85	5.05	6.15	7.25
" " " " " " " " –30" "	2.45	3.55	4.65	5.70	6.80	3.05	4.45	5.85	7.10	8.45
" " " " " " " " –36" "	2.70	4.05	5.35	6.60	7.70	3.35	5.05	6.60	8.15	9.55
BRANCHES:										
Tapped T	.70	.85	1.00	1.60	2.50	.85	1.10	1.25	2.00	3.10
" San. T	.75	.95	1.25	1.85	2.95	.90	1.10	1.55	2.30	3.70
" Cross	1.15	1.25	1.40	2.25	3.45	1.40	1.55	1.70	2.80	4.30
" San. Cross Tapped for	1.25	1.50	1.75	2.75	4.10	1.55	1.85	2.15	3.40	5.10
" Y 1¼", 1½"	.75	.95	1.25	1.85	2.95	.90	1.10	1.55	2.30	3.70
" Vent or 2"	1.40	2.00	2.20	2.80	3.40	1.70	2.45	2.75	3.50	4.25
" Inverted Y	1.40	2.00	2.20	2.80	3.40	1.70	2.45	2.75	3.50	4.25
" Inverted San. T	1.00	1.15	1.60	2.30	—	1.25	1.45	2.00	2.90	—
Long Tapped San. T, T, Y and ½-Y–12" long Tapped	1.45	1.70	3.05	—	—	1.80	2.10	3.80	—	—
" " " 15" " for	—	—	—	—	—	—	—	2.00	—	—
" " " 18" " 1¼", 1½"	2.10	2.75	3.55	4.35	4.95	2.60	3.40	4.45	5.40	6.15
" " " 24" " or 2"	2.35	3.20	4.35	5.25	6.20	2.90	4.00	5.40	6.55	7.70
" " " 30" "	2.70	3.80	4.90	5.90	7.00	3.35	4.75	6.15	7.40	8.75
" " " 36" "	2.90	4.30	5.50	6.75	7.90	3.65	5.35	6.90	8.45	9.85
Long Tapped Crosses & San. Crosses. 12" long Tapped for	1.95	—	—	—	—	2.45	—	—	—	--
" " " 18" " 1¼", 1½"	2.50	3.10	3.70	4.35	4.95	3.10	3.85	4.60	5.40	6.15
" " " 24" " or 2"	2.75	3.45	4.35	4.95	6.20	3.40	4.30	5.40	6.15	7.70
Boston T Y Branches — Same lists as San. T's.										
T and San. T, all Hub Ends . . .	2.25	3.45	4.65	5.65	7.35	2.75	4.30	5.85	7.05	9.20
Caps, Ventilating, Hub End	1.15	1.20	1.30	2.20	2.60	1.40	1.45	1.55	2.75	3.25
" " Spigot End.	.60	.70	.90	1.85	2.00	.75	.85	1.10	2.25	2.50
" " to drive	.60	.65	.80	1.25	1.55	—	—	—	—	—
Cleanouts, T with Round Hand Hole and Iron Cover	1.05	1.70	1.85	2.45	3.70	1.25	2.15	2.30	3.05	4.60
Covers, Trap	.25	.30	.40	.45	.55	.30	.35	.50	.55	.65
Combination Y and ⅛ Bend Cleanout B. T. S. on Main	1.85	2.45	3.10	4.95	6.15	2.30	3.05	3.85	6.15	7.70

LIST PRICES OF CAST IRON SOIL PIPE AND FITTINGS—Continued

Cast Iron Soil Fittings-Sizes, inches	Standard					Extra Heavy				
	2	3	4	5	6	2	3	4	5	6
Extension Pieces, to extend 4″...	$0.60	$1.00	$1.25	$1.85	$2.45	$0.75	$1.25	$1.55	$2.30	$3.05
" " " " 6″...	.60	1.00	1.25	1.85	2.45	.75	1.25	1.55	2.30	3.05
" " " " 8″...	.75	1.10	1.40	2.10	2.70	.90	1.40	1.70	2.60	3.40
" " " " 10″...	.90	1.25	1.50	2.30	2.95	1.10	1.55	1.85	2.90	3.70
" " " " 12″...	1.00	1.50	1.70	2.45	3.20	1.25	1.85	2.00	3.05	4.00
" " " " 14″...	1.15	1.75	1.85	2.70	3.45	1.40	2.15	2.30	3.40	4.30
" " " " 16″...	1.25	1.95	2.15	2.95	3.90	1.55	2.45	2.60	3.70	4.90
" " " " 18″...	1.40	2.20	2.45	3.20	4.45	1.70	2.75	3.05	4.00	5.55
" " " " 20″...	1.50	2.45	2.95	3.70	4.90	1.85	3.05	3.70	4.60	6.15
" " " " 22″...	2.00	2.75	3.40	4.20	5.50	2.45	3.40	4.30	5.25	6.90
" " " " 24″...	2.50	2.95	3.70	4.70	6.15	3.05	3.70	4.60	5.85	7.70
" " " " 30″...	—	—	—	—	7.85	—	—	—	—	9.80
" " " " 36″...	—	—	—	—	8.00	—	—	—	—	10.00
						7″	8″			
Grates, Pipe.....	.10	.15	.20	.25	.30	.50	.65			
" " , with Legs.....	—	—	.35	—	—	—	—			
Hubs, Single.....	.50	.65	.70	1.25	1.85	.60	.90	.90	1.55	2.45
" Double.....	.40	.50	.60	1.00	1.15	.45	.75	.75	1.25	1.55
Inlet, Fresh Air, Pittsburgh.....	.40	.50	.65	.85	1.25	.50	.60	.80	.95	1.50
Offsets, to offset 2″.....	.60	.95	1.00	2.45	3.35	.75	1.15	1.25	3.05	4.15
" " " 4″.....	.60	1.00	1.00	2.45	3.35	.75	1.25	1.25	3.05	4.15
" " " 6″.....	.75	1.10	1.10	2.65	3.35	.90	1.40	1.40	3.40	4.15
" " " 8″.....	.75	1.25	1.25	3.00	3.70	.90	1.55	1.55	3.80	4.60
" " " 10″.....	1.00	1.50	1.50	3.50	4.30	1.25	1.85	1.85	4.00	5.40
" " " 12″.....	1.15	1.65	1.60	3.65	4.95	1.40	2.00	2.00	4.45	6.15
" " " 14″.....	1.25	1.90	1.90	5.05	6.15	1.55	2.30	2.45	6.30	7.70
" " " 16″.....	1.35	2.10	2.00	5.35	6.75	1.70	2.60	3.40	6.60	8.30
" " " 18″.....	1.70	2.30	2.30	5.85	7.10	2.15	2.90	3.55	7.25	8.75
" " " 20″.....	2.00	2.75	2.60	6.15	7.40	2.45	3.40	4.30	7.55	9.20
" " " 22″.....	2.20	3.10	3.10	6.30	7.70	2.75	3.85	4.60	7.85	9.65
" " " 24″.....	2.45	3.70	3.70	6.50	8.10	3.05	4.60	5.05	8.15	10.10
" " " 26″.....	2.70	4.15	4.35	6.75	8.45	3.35	5.20	5.45	8.45	10.55
⅛ Bend Offsets, to offset 2″.....	.60	.95	1.00	2.50	3.15	.75	1.15	1.25	3.15	3.95
" " " " " 4″.....	.60	1.00	1.00	2.50	3.45	.75	1.25	1.25	3.15	4.30
" " " " " 6″.....	.75	1.10	1.10	2.85	3.45	.90	1.40	1.40	3.55	4.30
" " " " " 8″.....	.75	1.25	1.25	3.15	3.80	.90	1.55	1.55	3.95	4.75
" " " " " 10″.....	1.00	1.50	1.50	3.35	4.50	1.25	1.85	1.85	4.20	5.60
" " " " " 12″.....	1.15	1.60	1.60	3.70	5.10	1.40	2.00	2.00	4.65	6.35
" " " " " 14″.....	1.25	1.90	1.90	5.25	6.40	1.55	2.30	2.45	6.55	8.00
" " " " " 16″.....	1.35	2.10	2.00	5.50	6.90	1.70	2.60	3.40	6.90	8.60
" " " " " 18″.....	1.70	2.30	2.30	6.10	7.15	2.15	2.90	3.55	7.60	9.05
" " " " " 20″.....	2.00	2.75	2.60	6.35	7.65	2.50	3.40	4.30	7.95	9.55
" " " " " 22″.....	2.20	3.10	3.10	6.70	8.10	2.75	3.85	4.60	8.35	10.15
" " " " " 24″.....	2.45	3.70	3.70	6.90	8.50	3.05	4.60	5.05	8.65	10.60

LIST PRICES OF CAST IRON SOIL PIPE AND FITTINGS—Continued

	Standard					Extra Heavy				
Cast Iron Soil Fittings-Sizes, inches	2	3	4	5	6	2	3	4	5	6
Offset and Sanitary T, and Bungalow Fitting to offset 4″	—	—	$2.15	—	—	—	—	$2.65	—	—
" " " " " " 8″	—	—	2.40	—	—	—	—	2.95	—	—
" " " " " " 10″	—	—	2.65	—	—	—	—	3.25	—	—
Plugs	$0.25	$0.40	.45	$0.60	$0.75	$0.30	$0.45	.60	$0.75	$0.90
Rests, Pipe	.30	.40	.40	.75	.95	.40	.45	.45	.90	1.15
" " , Tapped	—	—	.75	—	—	—	—	.95	—	—
Sleeves and Thimbles, Straight	.60	.75	.75	1.25	1.85	.75	.90	.90	1.55	2.30
TEST FITTINGS:										
Philadelphia Test T	1.30	1.60	1.90	2.75	3.85	1.60	2.00	2.40	3.45	4.80
Reading Test T with Brass Plug	—	—	—	—	—	—	3.75	4.25	5.50	8.00
" " " without " "	—	—	—	—	—	—	1.75	2.10	2.90	3.80
TRAPS										
S, ⅛ S, ¼ S or P and Running	.90	1.15	1.50	4.30	4.95	1.10	1.40	1.85	5.40	6.15
" " " with H. H. & Cover	1.25	1.85	2.50	4.95	5.55	1.55	2.30	3.10	6.15	6.90
" " Deep Seal with H.H.&. C.	1.80	2.20	2.85	5.60	6.15	2.25	2.75	3.55	7.00	7.70
S, ⅛ S, ¼ S or P and Running, 2″ vent	1.20	1.35	2.20	4.00	4.80	1.50	1.70	2.75	5.00	6.00
" " " " " " " " 3″ "	—	1.35	2.20	4.00	4.80	—	1.70	2.75	5.00	6.00
" " " " " " " " 4″ "	—	—	2.20	4.00	4.80	—	—	2.75	5.00	6.00
" " " " " " " " 5″ "	—	—	—	4.00	4.80	—	—	—	5.00	6.00
" " " " " " " " 6″ "	—	—	—	—	4.80	—	—	—	—	6.00
Running, with Two 2″ vents	1.60	1.80	2.60	4.80	5.60	2.00	2.25	3.25	6.00	7.00
" " " 3″ "	—	1.80	2.60	4.80	5.60	—	2.25	3.25	6.00	7.00
" " " 4″ "	—	—	2.60	4.80	5.60	—	—	3.25	6.00	7.00
" " " 5″ "	—	—	—	4.80	5.60	—	—	—	6.00	7.00
" " " 6″ "	—	—	—	—	5.60	—	—	—	—	7.00
P—Philadelphia Regulation	1.60	2.00	2.80	5.00	6.00	2.00	2.40	3.40	5.40	6.50
¾ S " "	1.70	2.10	3.00	—	—	2.10	2.40	3.80	—	—
S and Running, Phila. Regulat'n	1.70	2.10	3.20	—	—	2.10	2.60	4.00	—	—
Deep Seal, S, ⅛ S and Running Philadelphia Regulation	—	2.60	4.00	—	—	—	3.50	5.00	—	—
Deep Seal, P, Phila. Regula.	1.80	2.40	3.50	5.50	—	2.20	2.80	4.20	6.50	—
P with ⅜″ Tap in Heel	—	—	2.10	—	—	—	—	2.45	—	—
Allentown Regulation Running	—	—	—	—	—	—	—	5.65	—	—
Asbury Park " "	—	—	—	—	—	—	—	6.90	—	—
Pittsfield House Trap	—	—	—	—	—	—	—	5.40	—	—

LIST PRICES OF CAST IRON SOIL PIPE AND FITTINGS—Continued

Size, inches	2 x 2	3 x 2	3 x 3	4 x 2	4 x 3	4 x 4	5 x 2	5 x 3	5 x 4	5 x 5	6 x 2	6 x 3	6 x 4	6 x 5	6 x 6
Double ¼ Bend, Standard	$1.50	$2.45	$2.55	$2.80	$2.80	$2.80	—	—	—	—	—	—	—	—	—
" " " **Extra Heavy**	**1.85**	**3.05**	**3.20**	**3.45**	**3.45**	**3.45**	—	—	—	—	—	—	—	—	—
BRANCHES:															
Combination Y and ⅛ Bend—Standard	1.05	1.70	1.70	1.70	1.70	1.70	$3.70	$3.70	$3.70	$3.70	$5.55	$5.55	$5.55	$5.55	$5.55
" " " " " **—Extra Heavy**	**1.30**	**2.15**	**2.15**	**2.15**	**2.15**	**2.15**	**4.60**	**4.60**	**4.60**	**4.60**	**6.90**	**6.90**	**6.90**	**6.90**	**6.90**
" " " " " —18" long, Standard	—	—	—	3.60	4.00	4.45	—	—	—	—	—	—	—	—	—
" " " " " —18" " **Extra Heavy**	—	—	—	**4.50**	**5.00**	**5.55**	—	—	—	—	—	—	—	—	—
" " " " " —24" " Standard	2.60	—	3.90	4.30	4.70	5.30	—	—	5.95	—	—	—	—	—	—
" " " " " **—24" " Extra Heavy**	**3.25**	—	**4.85**	**5.35**	**5.90**	**6.60**	—	—	**7.45**	—	—	—	—	—	—
" " " " " —30" " Standard	—	—	—	—	—	6.05	—	—	6.90	—	—	—	7.70	—	—
" " " " " **—30" " Extra Heavy**	—	—	—	—	—	**7.55**	—	—	**8.60**	—	—	—	**9.60**	—	—
" " " " " —36" " Standard	—	—	5.05	—	6.10	6.70	—	—	7.75	—	—	—	8.60	9.00	9.00
" " " " " **—36" " Extra Heavy**	—	—	**6.30**	—	**7.60**	**8.40**	—	—	**9.70**	—	—	—	**10.75**	**11.25**	**11.25**
" " " " " —2" vent. Standard	2.05	2.70	2.70	2.70	2.70	2.70	4.50	—	4.70	4.70	6.30	6.30	6.30	6.30	6.30
" " " " " **—2" " Extra Heavy**	**2.30**	**3.15**	**3.15**	**3.15**	**3.15**	**3.15**	**5.60**	—	**5.60**	**5.60**	**7.90**	**7.90**	**7.90**	**7.90**	**7.90**
Double Combination Y and ⅛ Bend—Standard	—	2.80	—	—	—	3.30	—	—	5.50	5.50	—	—	8.30	—	—
" " " " " " **—Extra Heavy**	—	**3.50**	—	—	—	**4.10**	—	—	**6.90**	**6.90**	—	—	**10.35**	—	—
Inverted Y Branch—Standard	1.00	1.40	1.40	1.70	1.70	1.70	2.45	2.45	3.10	3.40	3.70	3.70	4.95	4.95	4.95
" " " **—Extra Heavy**	**1.25**	**1.85**	**1.85**	**2.15**	**2.15**	**2.15**	**3.05**	**3.05**	**3.85**	**4.60**	**4.60**	**4.60**	**6.15**	**6.15**	**6.15**
Double Inverted Y—Standard	2.45	3.10	3.10	3.70	3.70	3.70	—	—	—	—	—	—	—	—	—
" " " **—Extra Heavy**	**3.05**	**3.85**	**3.85**	**4.60**	**4.60**	**4.60**	—	—	—	—	—	—	—	—	—

LIST PRICES OF CAST IRON SOIL PIPE AND FITTINGS—Continued

Size, inches	2 x 2	3 x 2	3 x 3	4 x 2	4 x 3	4 x 4	5 x 2	5 x 3	5 x 4	5 x 5	6 x 2	6 x 3	6 x 4	6 x 5	6 x 6
BRANCHES:															
Upright Y Branch—Standard	$1.85	$1.85	$1.85	$1.85	$3.10	$3.10	$3.70	$4.35	$4.90	$5.50	$4.90	$4.90	$5.50	$6.15	$7.35
" " " —**Extra Heavy**	**2.30**	**2.30**	**2.30**	**2.30**	**3.85**	**3.85**	**4.60**	**5.40**	**6.15**	**6.90**	**6.15**	**6.15**	**6.90**	**7.70**	**9.20**
Ventilating—Standard	.90	1.15	1.15	1.15	1.40	1.40	4.35	4.35	4.35	4.35	6.15	6.15	6.15	6.15	6.15
" —**Extra Heavy**	**1.10**	**1.40**	**1.40**	**1.40**	**1.85**	**1.85**	**5.40**	**5.40**	**5.40**	**5.40**	**7.70**	**7 70**	**7.70**	**7.70**	**7.70**
Crosses, San. Crosses, Dble.Y and Dble. ½-Y-Stand.	1.25	1.65	1.65	1.80	1.80	1.80	4.95	4.95	4.95	4.95	6.15	6.15	6.15	6.15	6.15
" " " " " " " **Ex. Heavy**	**1.55**	**2.00**	**2.00**	**2.15**	**2.15**	**2.15**	**6.15**	**6.15**	**6.15**	**6.15**	**7.70**	**7.70**	**7.70**	**7.70**	**7.70**
Dble. San. T or TV, Dble. ½-V, Dble. Y and Cross, 12" long—Standard	1.60	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12" " —Extra Heavy	**2.00**	—	—	—	—	—	—	—	—	—	—	—	—	—	—
18" long—Standard	2.75	—	—	4.25	—	4.65	—	—	5.40	—	—	—	6.10	—	—
18" " —Extra Heavy	**3.45**	—	—	**5.30**	—	**5.80**	—	—	**6.75**	—	—	—	**7.65**	—	—
24" long—Standard	3.00	—	—	4.85	—	5.25	—	—	6.10	—	—	—	7.00	—	—
24" " —Extra Heavy	**3.75**	—	—	**6.05**	—	**6.55**	—	—	**7.65**	—	—	—	**8.75**	—	—
30" long—Standard	—	—	—	—	—	5.90	—	—	6.90	—	—	—	7.95	—	—
30" " —Extra Heavy	—	—	—	—	—	**7.35**	—	—	**8.60**	—	—	—	**9.95**	—	—
36" long—Standard	—	—	—	—	—	6.50	—	—	7.70	—	—	—	8.85	—	—
36" " —Extra Heavy	—	—	—	—	—	**8.10**	—	—	**9.65**	—	—	—	**11.05**	—	—
Double Angle Y—Standard	1.90	—	3.20	—	—	3.60	—	—	4.60	—	—	—	5.80	—	—
" " "—**Extra Heavy**	**2.40**	—	**4.00**	—	—	**4.50**	—	—	**5.75**	—	—	—	**7.25**	—	—
HUBS:															
Connolly Saddle T—Standard	.75	.80	.80	.80	.90	.90	.90	.95	1.00	1.00	1.00	1.00	1.00	1.05	1.15
" " "—**Extra Heavy**	**.95**	**1.00**	**1.00**	**1.00**	**1.10**	**1.10**	**1.10**	**1.15**	**1.25**	**1.25**	**1.25**	**1.25**	**1.25**	**1.30**	**1.40**
" " Y—Standard	.80	.90	.90	.90	.95	.95	.95	1.00	1.05	1.05	1.15	1.15	1.15	1.25	1.25
" " "—**Extra Heavy**	**1.00**	**1.10**	**1.10**	**1.10**	**1.15**	**1.15**	**1.15**	**1.25**	**1.30**	**1.30**	**1.40**	**1.40**	**1.40**	**1.55**	**1.55**
Reducers—Standard	—	.40	—	.40	.45	—	.60	.60	.60	—	.60	.85	.85	.85	—
" —**Extra Heavy**	—	**.45**	—	**.45**	**.55**	—	**.75**	**.75**	**.75**	—	**.75**	**1.00**	**1.00**	**1.00**	—

LIST PRICES OF CAST IRON SOIL PIPE AND FITTINGS—Continued

Size, inches	2 x 3	2 x 4	2 x 5	2 x 6	3 x 4	3 x 5	3 x 6	4 x 5	4 x 6	4 x 8	5 x 6	5 x 8	5 x 10	6 x 7	6 x 8
Increasers—Standard	$0.90	$0.90	$1.25	$1.85	$1.85	$1.85	$1.85	$1.85	$1.85	$1.85	$2.45	$2.45	$2.65	$2.25	$2.00
" —**Extra Heavy**	**1.10**	**1.10**	**1.55**	**2.30**	**2.30**	**2.30**	**2.30**	**2.30**	**2.30**	**2.30**	**3.05**	**3.05**	**3.35**	**3.85**	**5.00**

Size, inches	1¼ x 2	1½ x 2	1½ x 3	1¼ x 4	1½ x 4	1½ x 5	2 x 3	2 x 4	2 x 5	2 x 6	3 x 4	3 x 5			
Increasers, Tapped—Standard	$0.75	$0.75	$0.90	$1.00	$1.00	$1.25	$0.90	$1.00	$1.25	$1.85	$1.40	$1.60	—	—	—
" " —**Extra Heavy**	**.90**	**.90**	**1.10**	**1.25**	**1.25**	**1.55**	**1.10**	**1.25**	**1.55**	**2.30**	**1.75**	**2.00**	—	—	—

Size, inches	3x2x3	4x2x4	4x3x4	5x4x4	5x4x5										
Special Reducing Sanitary T—Standard	$2.50	$3.00	$2.95	$3.80	$3.80	—	—	—	—	—	—	—	—	—	—
" " " "—**Extra Heavy**	**3.15**	**3.70**	**3.70**	**4.75**	**4.75**	—	—	—	—	—	—	—	—	—	—

For plain hub inlets, when not already included in the list, add as follows:

2"	3"	4"	5"	6"
$1.00	$1.25	$1.50	$2.00	$2.50

For inlets tapped iron pipe, when not already included in the list, add as follows:

1¼", 1½" and 2"	2½" and 3"
$1.25	$1.50

For inlets with brass trap screw, when not already included in the list, add as follows:

2"	3"	4"	5"	6"
$1.50	$2.00	$2.50	$3.00	$3.50

LIST PRICES OF CAST IRON SOIL PIPE AND FITTINGS—Continued

Cast Iron Soil Pipe—Sizes, inches	8	10	12
Standard Single Hub—per 5-foot length	$ 7.00	$12.00	$15.00
" Double " — " " "	8.00	13.00	16.00
Medium Single Hub—per 5-foot length	9.00	15.00	19.00
" Double " — " " "	10.00	16.00	20.00
Extra Heavy Single Hub—per 5-foot length	**11.00**	**18.00**	**22.00**
" " Double " — " " "	**12.00**	**19.00**	**23.00**

	Standard			Extra Heavy		
Cast Iron Soil Fittings—Sizes, inches	8	10	12	8	10	12
BENDS:						
¼	$ 4.00	$ 5.90	$ 8.65	$ 5.00	$ 6.50	$10.80
⅙	4.00	5.90	8.65	5.00	6.50	10.80
⅛	4.00	5.90	8.65	5.00	6.50	10.80
⅛	4.00	5.90	8.65	5.00	6.50	10.80
⅛	4.00	5.90	8.65	5.00	6.50	10.80
Long ¼, ⅙, ⅛, ⅛—18 inches clear	7.50	—	—	10.00	—	—
Short Sweep	4.80	6.80	—	6.00	8.50	—
Long "	6.00	8.00	—	7.50	10.00	—
BRANCHES:						
T, San. T, Y and ½-Y, with 2" branch	6.00	10.80	15.10	9.00	15.10	19.40
" " " " " " 3" "	6.00	10.80	15.10	9.00	15.10	19.40
" " " " " " 4" "	6.00	10.80	15.10	9.00	15.10	19.40
" " " " " " 5" "	6.00	10.80	15.10	9.00	15.10	19.40
" " " " " " 6" "	6.00	10.80	15.10	9.00	15.10	19.40
Cleanouts, T with Round Hand Hole and Iron Cover	5.00	—	—	7.50	—	—
Covers, Trap	.90	1.30	—	1.05	1.60	—
Grates, Pipe	—	—	—	—	—	—
Hubs, Single	2.50	3.90	—	3.50	4.85	—
" Double	2.50	3.80	5.40	3.50	4.85	9.20
Offsets, to offset 4 inches	8.00	—	—	11.00	—	—
" " " 6 "	9.60	—	—	12.00	—	—
" " " 8 "	10.40	—	—	13.00	—	—
Plugs	1.20	2.15	3.25	1.50	3.25	4.30
Rests, Pipe	1.75	2.15	—	2.25	3.25	—

LIST PRICES OF CAST IRON SOIL PIPE AND FITTINGS—Continued

	Standard			Extra Heavy		
Cast Iron Soil Fittings—Sizes, inches...	8	10	12	8	10	12
Sleeves and Thimbles, straight.....	$2.50	$3.80	$5.40	$3.50	$4.85	$9.20
TRAPS:						
S, ¾-S, ½-S or P and Running.....	10.00	—	—	13.00	—	—
" " " " " " " with hand hole and cover	10.75	—	—	13.75	—	—
S, ¾-S, ½-S or P and Running, with 4" vent	11.60	—	—	14.50	—	—
" " " " " " " " 6" "	12.00	19.45	29.35	15.00	25.90	36.70
" " " " " " " " 8" "	—	23.00	—	—	29.00	—
Running, with two 4" vents.....	12.80	—	—	16.00	—	—
" " " 6" "	14.00	21.60	29.35	17.00	28.10	36.70
" " " 8" "	14.00	—	31.10	17.00	—	38.90

Size, inches.....	8 x 6	8 x 8	8 x 10	8 x 12	10 x 8	10 x 10	10 x 12	12 x 10
Crosses, San. Crosses, Double Y and Double ½-Y—Standard....	—	$ 9.00	—	—	—	$16.20	—	$22.70
Extra Heavy.....	—	**13.50**	—	—	—	**22.65**	—	**29.15**
Increasers—Standard.....	—	—	$4.35	$7.35	—	—	9.20	—
" —**Extra Heavy**.....	—	—	**7.00**	**9.20**	—	—	**11.50**	—
Reducers—Standard.....	$2.50	—	—	—	$4.85	—	—	6.75
" —**Extra Heavy**.....	**4.25**	—	—	—	**6.20**	—	—	**10.80**

HAJOCA CAST IRON SOIL PIPE

Every Length Tested

Plate S–4008
Single hub pipe

Plate S–4009
Double hub pipe

Size, inches	2	3	4	5	6
Standard:					
Single hub, per 5-foot length	$1.30	$1.75	$2.30	$2.90	$3.50
Double hub, per 5-foot length	1.40	1.85	2.40	3.10	3.70
Medium:					
Single hub, per 5-foot length	1.70	2.30	3.00	4.40	5.40
Double hub, per 5-foot length	1.80	2.40	3.15	4.60	5.65
Extra Heavy:					
Single hub, per 5-foot length	**2.00**	**3.10**	**4.20**	**5.50**	**6.50**
Double hub, per 5-foot length	**2.10**	**3.25**	**4.40**	**5.70**	**6.80**

When ordering always specify weight. Single hub pipe is always furnished unless double hub is specified. Medium and extra heavy pipe are always furnished plain, untarred, unless distinctly specified tar coated. All standard pipe and fittings are furnished tar coated unless distinctly specified plain.

Average weight of cast iron soil pipe per length of five feet

Size, inches	2	3	4	5	6
Standard, pounds	18	26	35	45	55
Medium, pounds	20	30	45	60	75
Extra Heavy, pounds	**27½**	**47½**	**65**	**85**	**100**

All pipe guaranteed full weight and full length.

NOTE.—In running soil pipe joints, allow from 12 to 16 ounces of lead to each inch of diameter.

When ordering bends, branches and offsets with special side outlets, state whether right or left side is wanted. To determine this, hold the fitting with the spigot end toward you and with the hub facing upward, the right hand is then the right side of fitting and the left hand the left side. On traps, hold the hub toward you with the seal down, the right hand is then the right side of the trap and the left hand, the left side.

HAJOCA CAST IRON SOIL PIPE FITTINGS

Plate S–4020
Quarter bend

Plate S–4022
Fifth bend

Plate S–4024
Sixth bend

Plate S–4026
Eighth bend

Plate S–4028
Sixteenth bend

Sizes, inches	2	3	4	5	6
Plate S–4020, ¼ bend, Standard	$0.40	$0.55	$0.70	$1.05	$1.30
" " " " **Extra Heavy**	**.55**	**.70**	**.85**	**1.25**	**1.55**
Plate S–4022, ⅕ bend, Standard	.45	.80	.80	—	—
" " " " **Extra Heavy**	**.60**	**1.00**	**1.00**	—	—
Plate S–4024, ⅙ bend, Standard	.40	.60	.60	1.05	1.30
" " " " **Extra Heavy**	**.45**	**.75**	**.75**	**1.25**	**1.55**
Plate S–4026, ⅛ bend, Standard	.35	.45	.60	.80	1.05
" " " " **Extra Heavy**	**.40**	**.55**	**.75**	**1.00**	**1.25**
Plate S–4028, 1/16 bend, Standard	.35	.50	.60	.80	1.00
" " " " **Extra Heavy**	**.40**	**.70**	**.70**	**1.00**	**1.25**

Plate S–4032
Quarter bend with low heel inlet

Plate S–4034
Quarter bend with high heel inlet

Plate S–4036
Quarter bend with right or left side inlet

Sizes, inches	Standard 4	Extra Heavy 4
Plate S–4032, ¼ bend with 2-inch low heel inlet	$1.25	**$1.55**
" " " " " 3-inch " " "	3.10	—
" S–4034, " " " 2-inch high " "	1.25	—
" S–4036, " " " " right or left side inlet	1.25	**1.55**

HAJOCA CAST IRON SOIL PIPE FITTINGS

Plate S–4040
Long quarter bend

Plate S–4044
Long eighth bend

	Standard	Extra Heavy	
Sizes, inches	4	2	4
Plate S–4040, ¼ bend, 12 inches long, each	$1 25	—	**$1.55**
" " " " 18 " " each	1.50	**$1.30**	—
Plate S–4044, ⅛ bend, 12 inches long, each	1.25	—	—
" " " " 18 " " each	1.50	**1.30**	**1.85**

Plate S–4050
Short sweep bend

Plate S–4052
Long sweep bend

Plate S–4056
Double quarter bend

Sizes, inches	2	3	4	5	6
Plate S–4050, Short Sweep Bend, Standard, each	$0.60	$0.90	$1.15	$1.55	$2.50
Extra Heavy, each	**.75**	**1.10**	**1.40**	**1.85**	**3.10**
Plate S–4052, Long Sweep Bend, Standard, each	.75	.95	1.25	1.70	2.75
Extra Heavy, each	**.90**	**1.15**	**1.55**	**2.00**	**3.40**

Plate S–4056, Double ¼ Bend, 4 x 4 inches, Standard, each $2.80

HAJOCA CAST IRON SOIL PIPE FITTINGS

Plate S–4060
T

Plate S–4064
Sanitary T

Plate S–4066
Sanitary T with
2-inch side inlet

Sizes, inches	Standard, each	Extra Heavy, each	Standard, each	Extra Heavy, each	Standard, each	Extra Heavy, each
2 x 2	—	**$0.75**	$0.55	**$0.75**	—	—
3 x 2	—	—	.75	**.90**	—	—
3 x 3	—	—	.85	**1.10**	—	—
4 x 2	$0.85	**1.10**	.85	**1.10**	—	—
4 x 3	1.00	**1.25**	1.00	**1.25**	—	—
4 x 4	1.15	**1.40**	1.15	**1.40**	$2.15	**$2.40**
5 x 2	—	—	1.20	**1.45**	—	—
5 x 3	—	—	1.25	**1.55**	—	—
5 x 4	—	—	1.40	**1.70**	—	—
5 x 5	—	—	1.65	**2.00**	—	—
6 x 2	—	—	1.80	**2.15**	—	—
6 x 3	—	—	1.80	**2.15**	—	—
6 x 4	—	—	1.80	**2.15**	—	—
6 x 5	—	—	2.00	**2.45**	—	—
6 x 6	—	—	2.00	**2.45**	—	—

Plate S–4070
Tapped T

Plate S–4072
Tapped Sanitary T

Plate S–4076
Long Sanitary T

Sizes, inches	Standard, each	Extra Heavy, each	Standard, each	Extra Heavy, each
2 x 1¼	$0.70	**$0.85**	$0.75	**$0.90**
2 x 1½	.70	**.85**	.75	**.90**
2 x 2	.70	**.85**	.75	**.90**
4 x 1¼	1.00	**1.25**	1.25	**1.55**
4 x 1½	1.00	**1.25**	1.25	**1.55**
4 x 2	1.00	**1.25**	1.25	**1.55**

4 x 30 inch long sanitary T, Standard, each $4.65

4 x 36 inch long sanitary T, Standard, each $5.35

HAJOCA CAST IRON SOIL PIPE FITTINGS

Plate S–4100
Boston TY

Plate S–4105
Combination Y and eighth bend

Plate S–4110
Y

Sizes, inches	Standard, each	Extra Heavy, each	Standard, each	Extra Heavy, each	Standard, each	Extra Heavy, each
2 x 2	$0.55	**$0.75**	$1.05	**$1.30**	$0.55	**$0.75**
3 x 2	.75	**.90**	—	—	.75	**.90**
3 x 3	—	—	1.70	**2.15**	.85	**1.10**
4 x 2	.85	**1.10**	1.70	**2.15**	.85	**1.10**
4 x 3	1.00	**1.25**	—	—	1.00	**1.25**
4 x 4	1.15	**1.40**	1.70	**2.15**	1.15	**1.40**
5 x 2	1.20	**1.45**	—	—	1.20	**1.45**
5 x 3	1.25	**1.55**	—	—	1.25	**1.55**
5 x 4	1.40	**1.70**	3.70	**4.60**	1.40	**1.70**
5 x 5	1.65	**2.00**	—	—	1.65	**2.00**
6 x 2	—	**2.15**	—	—	1.80	**2.15**
6 x 3	—	**2.15**	—	—	1.80	**2.15**
6 x 4	—	**2.15**	—	—	1.80	**2.15**
6 x 5	—	**2.45**	—	—	2.00	**2.45**
6 x 6	—	**2.45**	—	—	2.00	**2.45**

Plate S–4120
Double Boston TY

Plate S–4124
Inverted Y

Plate S–4126
Vent branch

Plate S–4120—4-inch Double Boston T Y, Standard, each..... $1.80
" " " " " " **Extra Heavy, each**... **2.15**

Plate S–4124—4 x 2-inch Inverted Y, Standard, each..... 1.70

Plate S–4126—2 x 2-inch Vent Branch, Standard, each..... .90
" " " " " " **Extra Heavy, each**..... **1.10**
" " 4 x 2-inch " " Standard, each..... 1.15
" " " " " " **Extra Heavy, each**..... **1.40**

HAJOCA CAST IRON SOIL PIPE FITTINGS

Plate S–4140

Double Y

Sizes, inches	Standard, each	**Extra Heavy, each**
2 x 2	$1.25	**$1.55**
3 x 2	—	**2.00**
3 x 3	—	**2.00**
4 x 2	1.80	**2.15**
4 x 4	1.80	**2.15**
5 x 4	4.95	**6.15**
6 x 4	6.15	—

Plate S–4144

Sanitary cross or double sanitary T

Sizes, inches	Standard, each	**Extra Heavy, each**
2 x 2	—	—
3 x 2	—	—
3 x 3	—	—
4 x 2	$1.80	—
4 x 4	1.80	**$2.15**
5 x 4	—	—
6 x 4	—	—

Plate S–4146 (not illustrated)—4 x 4 inch Extra Heavy Double Sanitary T, 30 inches long, each **$7.35**

Plate S–4148

Tapped Cross

Sizes, inches	Standard, each	**Extra Heavy, each**
2 x 1¼	$1.15	**$1.40**
2 x 1½	1.15	**1.40**
2 x 2	1.15	**1.40**
4 x 1¼	1.40	**1.70**
4 x 1½	1.40	**1.70**
4 x 2	1.40	**1.70**

Plate S–4152

Tapped Sanitary Cross

Sizes, inches	Standard, each	**Extra Heavy, each**
2 x 1¼	$1.25	**$1.55**
2 x 1½	1.25	**1.55**
2 x 2	1.25	**1.55**
4 x 1¼	1.75	—
4 x 1½	1.75	—
4 x 2	1.75	—

HAJOCA CAST IRON SOIL PIPE FITTINGS

Plate S–4160
Offset

Plate S–4166
Eighth bend offset

Sizes, inches. . .	Standard, each 2	4	Extra Heavy, each 4	Standard, each 4	Extra Heavy, each 4
To offset . 2 inches	—	$1.00	—	—	—
" " 4 "	$0.60	1.00	**$1.25**	$1.00	**$1.25**
" " 6 "	.75	1.10	**1.40**	1.10	**1.40**
" " 8 "	.75	1.25	**1.55**	1.25	**1.55**
" " 10 "	1.00	1.50	**1.85**	1.50	**1.85**
" " 12 "	1.15	1.60	**2.00**	1.60	**2.00**
" " 14 "	—	1.90	**2.45**	1.90	**2.45**
" " 16 "	—	2.00	**3.40**	2.00	**3.40**
" " 18 "	—	2.30	**3.55**	2.30	**3.55**

Plate S–4170
Connolly T saddle hub

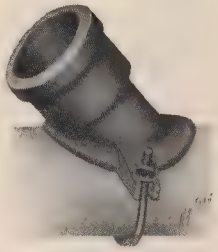


Plate S–4171
Connolly Y saddle hub

Sizes, inches	Standard, each	Extra Heavy, each
2 x 2	$0.75	**$0.95**
3 x 3	—	—
4 x 2	.80	**1.00**
4 x 3	—	—
4 x 4	.90	**1.10**

Sizes, inches	Standard, each	Extra Heavy, each
2 x 2	$0.80	**$1.00**
3 x 3	.90	**1.10**
4 x 2	.90	**1.10**
4 x 3	.95	**1.15**
4 x 4	.95	**1.15**

HAJOCA CAST IRON SOIL PIPE FITTINGS

Plate S–4174
Extension piece

Plate S–4180
Increaser

Plate S-4184
Reducer

Plate S–4174. Extension piece

To extend, inches	4	6	8	10	12
4-inch Standard, each	$1.25	$1.25	$1.40	$1.50	$1.70

Plate S–4180. Increaser

Sizes, inches	2 x 3	2 x 4	3 x 4	4 x 5	4 x 6
Standard, each	$0.90	$0.90	$1.85	$1.85	$1.85
Extra Heavy, each	**1.10**	**1.10**	**2.30**	**2.30**	**2.30**

Plate S–4184. Reducer

Sizes, inches	3 x 2	4 x 2	4 x 3	5 x 2	5 x 3	5 x 4	6 x 2	6 x 3	6 x 4	6 x 5
Standard, each	$0.40	$0.40	$0.45	$0.60	$0.60	$0.60	$0.60	$0.85	$0.85	$0.85
Extra Heavy, each	**.45**	**.45**	**.55**	**.75**	**.75**	**.75**	**.75**	**1.00**	**1.00**	**1.00**

Plate S–4188
Double hub

Plate S–4190
Sleeve

Plate S–4192
Plug

Sizes, inches	2	3	4	5	6	7
Plate S–4188						
Double Hub, Standard, each	$0.40	$0.50	$0.60	$1.00	$1.15	—
" " **Extra Heavy, each**	**.45**	**.75**	**.75**	**1.25**	**1.55**	—
Plate S–4190						
Sleeve, Standard, each	.60	.75	.75	1.25	—	—
" **Extra Heavy, each**	**.75**	**.90**	**.90**	**1.55**	—	—
Plate S–4192						
Plug, Standard, each	.25	.40	.45	.60	.75	$1.30
" **Extra Heavy**	**.30**	**.45**	**.60**	**.75**	**.90**	**1.75**

HAJOCA CAST IRON SOIL PIPE FITTINGS

Plate S–4200

Vent cap, spigot end

Size, inches	4
Standard, each	$0.90

Plate S–4202

Vent cap, hub end

Size, inches	4
Standard, each	$1.30

Plate S–4204 (not illustrated). Vent cap to drive
4-inch Standard, each $0.80

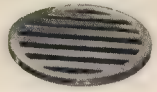


Plate S–4206

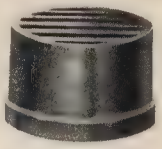


Plate S–4208

Pipe strainers to fit in bell of soil pipe

Plate S–4206—Sizes, inches. 2 3 4 5 6 7 8
Each $0.10 $0.15 $0.20 $0.25 $0.30 $0.50 $0.65

Pittsburgh fresh air inlet
4-inch, each $0.65

Plate S–4210

Test fitting, Philadelphia regulation

Sizes, inches	Standard each	Extra Heavy each
4	$1.90	$2.40
5	2.75	3.45
6	3.85	4.80

Plate S–4212

Test fitting, with brass cleanout, Reading pattern.

Size, inches	4
Extra Heavy, each	**$4.25**

HAJOCA CAST IRON SOIL PIPE FITTINGS

Plate S–4230
"S" trap

Sizes, inches.....	2	4
Standard, each.....	$0.90	$1.50
Extra Heavy, each	—	**1.85**

Plate S–4232
"¾ S" trap

Sizes, inches.....	2	4
Standard, each.....	$0.90	$1.50
Extra Heavy, each	—	**1.85**

Plate S–4234
"½ S" or "P" trap

Sizes, inches.	2	3	4
Standard, each	$0.90	$1.15	$1.50
Extra Heavy, each.....	**1.10**	**1.40**	**1.85**

Plate S–4236
Running trap

Sizes, inches.	2	3	4
Standard, each	$0.90	$1.15	$1.50
Extra Heavy, each.....	—	**1.40**	**1.85**

Plate S–4240

"S" trap with hand hole and cover

Sizes, inches.....	2	4
Standard, each.....	$1.25	$2.50
Extra Heavy, each	—	**3.10**

Plate S–4242

"¾ S" trap with hand hole and cover

Sizes, inches.....	2	4
Standard, each.....	$1.25	$2.50
Extra Heavy. each	—	**3.10**

HAJOCA CAST IRON SOIL PIPE FITTINGS

Plate S–4246

"½ S" or "P" trap with hand hole and cover

Sizes, inches.	2	3	4
Standard, each,	$1.25	$1.85	$2.50
Extra Heavy, each	**1.55**	**2.30**	**3.10**

Plate S–4250

Running trap with hand hole and cover

Sizes, inches.	2	3	4
Standard, each,	$1.25	$1.85	$2.50
Extra Heavy, each	—	**2.30**	**3.10**

Plate S–4254

Running trap with vent

Sizes, inches	Vent, inches	Standard, each	**Extra Heavy, each**
2	2	$1.20	**$1.50**
3	3	1.35	**1.70**
4	4	2.20	**2.75**
5	4	4.00	**5.00**
5	5	—	**5.00**
6	4	—	**6.00**

Plate S–4256

Running trap with double vents

Sizes, inches	Vent, inches	Standard, each	**Extra Heavy, each**
2	2	$1.60	**$2.00**
3	3	1.80	**2.25**
4	4	2.60	**3.25**
5	4	4.80	**6.00**
6	4	—	**7.00**

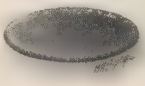


Plate S–4257

Trap cover

Sizes, inches	Each
2	$0.15
3	.15
4	.20

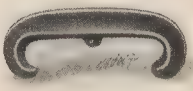


Plate S–4258

Clamp to drive

Sizes, inches	Each
2	$0.15
3	.15
4	.20

HAJOCA CAST IRON SOIL PIPE FITTINGS

Plate S–4260

Philadelphia regulation "S" trap with brass cleanout plug

Sizes, inches	2	4
Medium, each	$1.70	$3.20

Plate S–4264

Philadelphia regulation "¾ S" trap with brass cleanout plug

Sizes, inches	2	4
Medium, each	$1.70	$3.00
Extra Heavy, each	—	**3.80**

Plate S–4266

Philadelphia regulation "½ S" or "P" trap with brass cleanout plug

Sizes, inches	2	3	4
Medium, each	$1.60	$2.00	$2.80
Extra Heavy	**2.00**	**2.40**	**3.40**

Plate S–4270

Philadelphia regulation running trap with brass cleanout plug

Sizes, inches	2	4
Medium, each	$1.70	$3.20

Plate S–4276

Philadelphia regulation deep seal "S" trap with brass cleanout plug

Size, inches	4
Medium, each	$4.00

Plate S–4280

Philadelphia regulation deep seal "¾ S" trap with brass cleanout plug

Sizes, inches	3	4
Medium, each	$2.60	$4.00

HAJOCA CAST-IRON SOIL PIPE FITTINGS

Plate S–4284

Philadelphia regulation deep seal "½ S" or "P" trap with brass cleanout plug.

Sizes, inches...	3	4
Medium, each....	$2.40	$3.50
Extra Heavy, each —		**4.20**

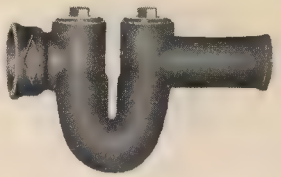


Plate S–4288

Deep seal running trap with extra long outlet and two brass cleanout plugs, Asbury Park regulation.

4 - inch, Extra Heavy, each..... $6.90

Plate S–4290

Running trap with 4-inch brass cleanout plug and 2-inch hub or tapped vent, Pittsfield regulation.

4-inch, Extra Heavy, each..... $5.40

Plate S-4292 (not illustrated). "P" trap tapped ⅜-inch heel, for anti-freezing closets.
4-inch, Standard, each..... $2.10

Plate S-4294 (not illustrated). Deep sure seal "P" trap with hand hole and cover.
4-inch, Standard, each..... $2.85
4-inch, Extra Heavy, each..... 3.55

Plate S-4296 (not illustrated). Deep seal "S" trap with hand hole and cover.
4-inch, Standard, each..... $2.85

Plate S-4300. Sewer gas and back water valve.

Sizes, inches...	2	4
Each.....	$6.00	$7.50

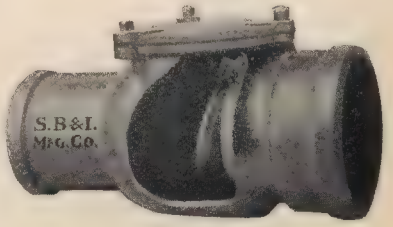


Plate S–4300

HAJOCA CAST IRON SOIL PIPE FITTINGS

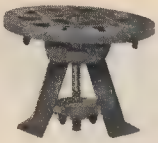


Plate S–4306
Adjustable vent grate

4-inch, each..... $0.60

Plate S–4308
Adjustable vent cap

4-inch, each..... $0.80

Plate S–4310
Pipe strainer with legs to fit bell of soil pipe.

4 - inch, each.. $0.35

Plate S–4312
Adjustable clamp

Each..... $0.50

Plate S–4314
Soil pipe hook

Sizes	Each
2-inch.....	$0.08
3-inch.....	.10
4-inch.....	.12
5-inch.....	.15
6-inch.....	.20

Plate S–4316
Sisson's insertable joint

Sizes, inches	Standard, each	**Extra Heavy, each**
2	$1.40	**$1.50**
3	1.50	**1.70**
4	1.80	**2.00**
5	2.10	**2.30**
6	2.60	**2.80**

Plate S–4318
Copper adjustable roof flange

For 2-inch pipe, each.... $2.85
" 4-inch " " 3.35

This flange can be adjusted to the varying pitches of any roof from flat to forty-five degree pitch.

Plate S–4330

Plate S-4330. Hajoca extra heavy cast iron rain conductor pipe with lugs.

Length, feet	Body, inches	Outlet for Pipe, inches	Each
2	4 x 3	3	$5.50
2	4 x 3	4	5.50
4	4 x 3	4	8.50
5	4 x 3	4	11.50
2	4 x 4	4	5.50
4	4 x 4	4	8.50
4	4 x 4	(with shoe at bottom)	10.00
4	5 x 3	3, 4 or 5	10.00
1	6 x 4	4	3.25

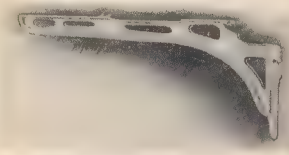


Plate S–4332

Hajoca No. 906 cast iron drainboard bracket, for wood drainboard.

Painted, each..... $0.60

This bracket is suitable for wood drainboards in any widths from 16 inches up.

Plate S–4335

Hajoca cast iron laundry tray leg, 16 inches high x 17 inches wide.

Plain, each..... $0.75

Galvanized, each..... .95

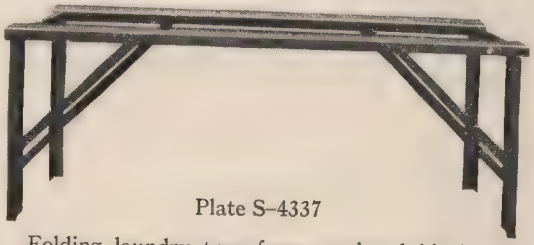


Plate S–4337

Folding laundry tray frame, painted black, 18 inches high by 17 inches wide.

Two-part, 44 inches long, with two sets of legs $2.00

These frames are light in weight and when "knocked down" occupy a minimum of space. Set up they form a rigid and permanent support which will not fall down while the tray is being set.

Plate S-4400. "Perfection" Septic Tank. Size, 7 feet 4 inches long by 32 inches wide by 27 inches deep inside; elbows, 4 inches; walls, 2 inches thick. Shipped in sections, crated; weight, 2800 pounds.

Each $72.00

Adaptability

To be used in connection with inside closet, bathroom and kitchen sink, where there is no sewer connection, for residences, schools, churches, factories, etc.

Description

The "Perfection" Septic Tank reduces all house sewage to water by the natural process of bacterial destruction. The bacteria enter the tank with the sewage and, being increased by millions, literally devour and digest all contents, including animal and vegetable matter and tissue paper, discharging such in the form of an effluent free from objectionable suspended matter that may be disposed so as to be inoffensive to sight or smell; tank never has to be cleaned out.

This tank is made of reinforced concrete in sections for convenience in handling and is easily handled and installed by two men. These sections are cemented together in the ground forming a receptacle that is airtight and watertight.

The unit has three compartments and is large enough for eight people in a residence, 15 people in a factory or twenty people in a school or public building. Larger sizes are multiples of this unit.

To preserve the life and stimulate the activity of the bacteria, the excavation should be deep enough to maintain a temperature of not less than 50 degrees in the coldest weather. This should be approximately five feet deep.

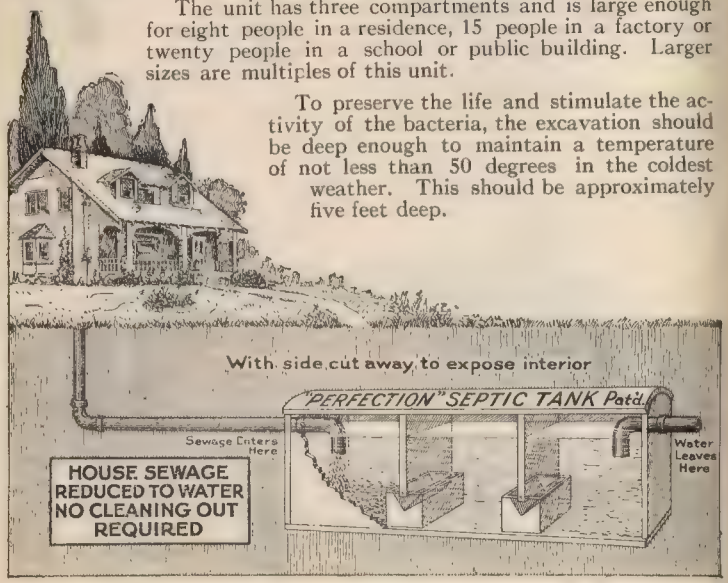

With side cut away to expose interior
"PERFECTION" SEPTIC TANK Patd.
Sewage Enters Here
Water Leaves Here
HOUSE SEWAGE REDUCED TO WATER NO CLEANING OUT REQUIRED

Plate S-4400

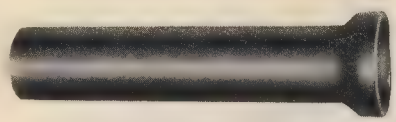


Plate S–4500
Terra cotta pipe
In 2-foot lengths

Plate S–4502
Terra cotta elbow

Plate S–4504

Plate S-4504. Terra cotta running trap, with hand hole.

Hand hole traps are made only in the following sizes, viz.: 3 x 3, 4 x 4, 5 x 5, 6 x 4, 6 x 6, 8 x 6, 10 x 6 and 12 x 6.

(Standard price list, adopted 9-20-1916)

Sizes, inches	Average weight of pipe, per foot	Plate S–4500 Pipe, per foot	Plate S–4502 Elbows, each	Plate S–4504 Traps, each	Plate S–4506 and Plate S–4508 T's and Y's (not illustrated) 2 feet long, each
3	7 lbs.	$0.30	$1.20	$ 2.40	$1.20
4	9 lbs.				
5	12 lbs.	.45	1.80	3.60	1.80
6	15 lbs.				
8	23 lbs.	.70	2.80	5.60	2.80
10	35 lbs.	1.05	4.20	8.40	4.20
12	43 lbs.	1.35	5.40	18.00	5.40

Increasers or reducers, same prices as T's or Y's of the size of the larger end.

Every shipment of terra cotta pipe and fittings is at the risk of the purchaser, and no allowance will be made for breakage.

Plate S-4515. Portland cement

Per bag $1.75

One part cement to 4 parts sand is a usual mixture for running lines of terra cotta pipe. A bag contains about 90 pounds.

Plate S–4515

Plate S–4520

Cash iron body pressure reducing and regulating valve.

Sizes, inches	½	¾	1	1¼	1½	2
Each	$13.25	$15.45	$23.35	$28.90	$35.60	$46.70

This valve has a self-contained strainer, also a single removable valve seat and disc, and can be used for hot or cold water. It closes against the pressure. Wearing parts are renewable at small cost without disconnecting the valve from the piping.

Plate S–4525

Mueller iron body pressure reducing and regulating valve, for water, furnished with galvanized strainer (strainer not illustrated).

Sizes, inches	½	¾	1	1¼	1½
Each with Strainer	$10.00	$10.75	$17.30	$28.50	$39.20
" without "	8.00	8.50	15.30	21.75	27.50

Mueller regulating valves for cold water, with diaphragms and springs suitable for delivery pressures up to 125 pounds, will be regularly furnished unless otherwise specified.

Plate S–4527
Climax cellar drainer

Plate S–4529
Penberthy cellar drainer

No.	Lift,* feet	Capacity* gallons per hour	Supply pipe	Discharge pipe	Plate S-4527 Automatic	Plate S-4527 Not Automatic	Plate S-4529 Automatic	Plate S-4529 Not Automatic
1	6 to 12	50 to 250	½″	1 ″	$25.00	$15.00	$25.00	$15.00
2	6 to 12	100 to 400	¾″	1¼″	40.00	25.00	40.00	25.00
3	6 to 12	150 to 600	1 ″	1½″	55.00	35.00	55.00	35.00
4	6 to 12	200 to 800	1¼″	2 ″	80.00	50.00	80.00	50.00
5	6 to 12	275 to 1,000	1½″	2½″	110.00	70.00	110.00	70.00
6	6 to 12	350 to 1,200	2 ″	3 ″	160.00	100.00	—	—

* Both the lift and the capacity vary with the water pressure; the figures given above are based on pressures ranging from 25 to 80 pounds.

Cellar drainers are designed for draining cellars, wheel pits, furnace pits, cesspools, foundations, etc., also for removing waste water from kitchens below the sewer level, drippings from ice boxes, or for any purpose where it is necessary to remove water economically from one level to a higher one.

The principle of operation is that of a water pressure ejector, with a quick opening and closing valve automatically operated by the float. The drainer is sunk into a hole in which the water to be drained accumulates; as soon as enough has collected to lift the float, the valve opens and the drainer starts to operate. Drainers when without automatic attachment, are controlled by a stop cock placed on the supply pipe.

HAJOCA WATER SUPPLY SYSTEMS

SHALLOW WELL PUMPS

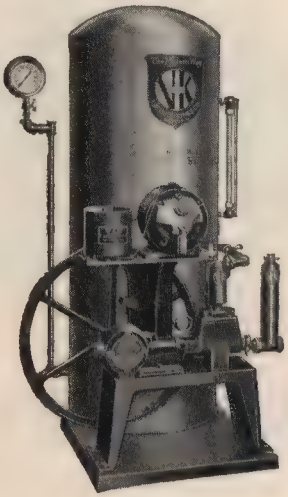


Plate S--4540

Hajoca water supply systems are intended for use in places not accessible to a city water works, and make possible in such places all the conveniences of modern plumbing equipment. Air is pumped with the water into the tank, the compressed air forcing the water through the supply pipes to the various fixtures.

These water supply systems are built in many sizes, the pumps' capacity ranging from 120 to 720 gallons per hour with tanks ranging from 53 to 720 gallons. All shallow well pumps are recommended for use where the vertical suction lift is 22 feet or less. We will cheerfully give you information regarding the pumping outfit suitable for any requirements, if complete specifications regarding source of water supply, number of fixtures to be supplied, head of live stock to be watered and area of lawn to be sprinkled are furnished.

Hajoca electric pumps are quiet in operation and are equipped with automatic switch, pressure or float as required. The outfits are self-oiling, self-priming as well as self-starting and self-stopping, requiring the minimum amount of attention in their operation.

Hajoca shallow well pumps are also built for gasoline engine drive.

Full information and prices furnished on request.

HAJOCA WATER SUPPLY SYSTEMS

DEEP WELL PUMPS

Hajoca deep well pumps should be used in connection with all wells, driven and dug, in which the water level lowers to more than 22 feet of the level of the pump when water is drawn from the well.

Hajoca deep well pumps are suitable for lift from 22 feet to 300 feet and are made in capacities ranging from 120 to 740 gallons per hour with a large variety of storage tanks.

These deep-well pumps are also arranged for gasoline engine drive as well as electric motor.

For gasoline engine outfits we recommend large capacity tanks to insure greater convenience and less frequent starting of the engine.

Plate S–4570

Further information regarding **Hajoca** deep-well pumps will be gladly furnished upon request. Write us your requirements, and complete information regarding the size and price for your needs will be forwarded.

State in your inquiry number of fixtures to be supplied, head of live stock to be watered and area of lawn to be sprinkled and the depth of the water line.

D

Plate S–4580

Plate S-4580. Washing machine drainer
Each $3.50

Adapter for attaching to plain round faucet ..... .50

This white enamel finish drainer is used for emptying washing machines, pails, refrigerator pans, etc.

The Drainer fits any standard threaded faucet. If faucet is smooth, we recommend using faucet adapter which converts same into a standard threaded faucet. It is easily attached and uses *only* city water pressure for power. No parts to get out of order, no tools needed.

For example, to fill a pail, or machine or tub, simply attach the drainer to faucet, screw in plug "D", place end of hose or tube in machine, pail or tub and *turn on the water.*

To *drain*, simply *detach* the plug "D," insert the tube or hose in the tub, pail or machine you want emptied, turn on the water and this creates a suction that quickly empties it into the sink.

Plate S-4582. Galvanized laundry tray covers.

	2-Part	3-Part
Each, with wood back strip	$4.00	$6.00
Same, extra heavy, with reinforcement (see cut), no wood back strip	6.50	9.75

These covers fit regular size 2-part or 3-part Hajocastone or concrete laundry trays. The extra heavy covers are furnished with steel hinges but without the wood back strip.

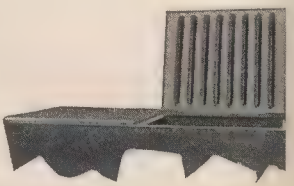


Plate S–4582

Plate S–4600

Plate S–4606

Hajoca iron compression hydrant

Hajoca iron street washer

Length in ground, feet	1½	2	3	4
Plate S-4600, ¾-inch	$9.00	$9.00	$10.00	$11.00
Plate S-4606, ¾-inch	7.50	7.50	8.50	—

When ordering give length in ground required.

The working parts of iron hydrants and street washers can be replaced without digging up; hydrants have brass bottoms and brass nozzles. For repair parts see page 58.

Plate S–4608

Hajoca iron wall hydrant with brass wall plate and iron key; size, ¾-inch

For wall 9 inches thick	$3.50
" " 13 " "	4.00
" " 18 " "	4.50
" " 24 " "	5.25

Plate S–4610

Repair parts for **Hajoca** ¾-inch iron hydrant and street washer.

Number		Each
0.	Handle for hydrant	$0.15
1.	Screw for hydrant	.40
2.	Top for hydrant	.25
3.	Nozzle slide for hydrant	.05
4.	Bolt for hydrant	.10
	Bolt for street washer (No. 22)	.10
5.	Brass nozzle for hydrant	.50
6.	Stock for hydrant	1.00
7.	Base for hydrant	.60
8.	Valve body, packed, for hydrant or street washer	.75
9.	Packing nut only	.15
10.	Valve stem for hydrant or street washer	.40
11.	Brass bottom connection, for hydrant or street washer	1.00
12.	Sleeve for hydrant or street washer	$0.15
13.	Stirrup for hydrant or street washer	.10
14.	Tail coupling for iron pipe, for hydrant or street washer	.40
15.	Tail coupling nut for hydrant or street washer	.25
16.	Crotch for hydrant	.25
17.	Tee for hydrant	.10
18.	Lid for street washer	.25
19.	Top box for street washer	.50
20.	Plate for street washer	.25
21.	Clamp for street washer	.10
23.	Screw for street washer	.30
24.	Yoke for street washer	.60
33.	Iron key for street washer	.15

Plate S–4612

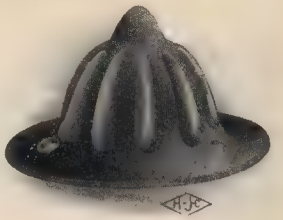


Plate S–4616

Hajoca iron hydrant top for wood hydrant post.

Each..... $0.30

Plate S–4618

Hajoca iron hydrant handle.

Each..... $0.20

Plate S–4620

Hajoca iron hydrant stay.

Each..... $0.10

Plate S-4612. Hajoca wood rigged hydrant with 24-inch bottom boards, ⅝-inch hydrant stop, ½-inch iron pipe upright and lead pipe tail piece.

Pine, iron nozzle.....each $9.50
Pine post only, no top, not rigged.....each 3.75

When ordering rigged hydrants, specify if right-hand tail piece as shown, or left hand, is required.

Plate S–4621

Hajoca iron hydrant rod, round, with wrought head, 4½ feet long.....each $0.45

Plate S–4622

Hajoca iron stop cock key, 5 feet long.....each $1.65

Plate S–4626

Plate S-4626. Hajoca cast iron extension service box, diameter 2½ inches.

Number	Length	Each
92–C.	2 ft. to 3 ft. 2 in.	$1.65
92–D.	2 ft. to 3 ft. 6 in.	1.85
93–D.	3 ft. to 4 ft.	2.00
93–E.	3 ft. to 4 ft. 6 in.	2.15
94–E.	3 ft. 6 in. to 5 ft.	2.30

3. Diameter, 3 inches; 2 ft. 8 in to 4 ft. 2.55

Keys for removing cover, 20 cents each; rods with rings are extra.

Extension service boxes are easily adjusted to the grade of the street by screwing down or unscrewing the top section. Covers marked "Water" as shown are regularly furnished unless ordered marked "Gas." In lots of fifty boxes or more, name will be cast on covers without extra charge.

Plate S-4628. Hajoca iron street washer key, with hole ⅜ or 7/16-inch square.

Each $0.25

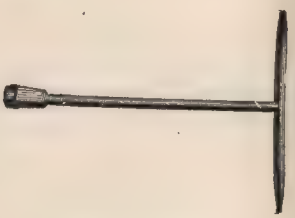


Plate S–4628

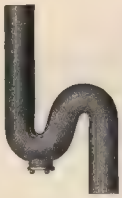


Plate S–4700
Lead "S" trap

Plate S–4702
Lead "¾ S" trap

Plate S–4704
Lead "½ S" or "P" trap

Plate S–4706
Lead running trap

	Standard			Medium			Extra Heavy		
Sizes, inches	1¼	1½	2	1¼	1½	2	1¼	1½	2
Weight of lead, per running foot, pounds	1½	2¼	3¼	2	3	4	2½	3½	4½
Full "S" (S–4700)	$0.58	$0.90	$1.38	$0.73	$1.03	$1.65	**$0.87**	**$1.25**	**$1.85**
"¾ S" (S–4702)	.55	.81	1.30	.66	.94	1.53	**.81**	**1.15**	**1.73**
"½ S" or "P" (S–4704)	.51	.75	1.20	.64	.87	1.42	**.77**	**1.09**	**1.57**
Running (S–4706)	.48	.72	1.13	.58	.87	1.32	**.70**	**1.03**	**1.46**
Full "S," 24 ins. long	.93	1.36	2.00	1.19	1.64	2.40	**1.44**	**1.95**	**2.69**
"¾ S," extra long	.85	1.19	1.76	1.04	1.43	2.08	**1.28**	**1.72**	**2.33**
"½ S" or "P," extra long	.76	1.02	1.55	.95	1.22	1.83	**1.14**	**1.50**	**2.02**
Running, extra long	.82	1.15	1.67	1.01	1.41	1.98	**1.23**	**1.65**	**2.18**

The above prices include brass drain screws.

Traps can be furnished with vent couplings at the following extra prices:

1¼" with 1¼" vent coupling $0.80 — 2" with 1½" vent coupling $0.95
1½" " 1½" " " .95 — 2 " " 2" " " 1.25

2-inch traps will be furnished with 1½-inch vent couplings, unless otherwise ordered.

All weights of lead traps are designated per running foot.

Plate S–4710

Plate S-4710. Lead drum trap with nickel-plated cover; size, 4 x 8 inches.

Each, standard weight $2.20
Each, extra heavy 2.70

Plate S–4712
Short Lead Bend

Plate S–4714
Long Lead Bend

Plate S–4716
Extension Lead Bend

	Standard					Medium		
Sizes, inches	1¼	1½	2	3	4	1¼	1½	2
Weight of lead per running foot, pounds	1½	2¼	3½	5	6	2	3	4
Short Bend (S-4712)	$0.25	$0.38	$0.57	$1.09	$1.50	$0.31	$0.51	$0.69
Length of inlet and outlet, inches	3½ x 6	4 x 7	3¾x7¾	4¼x8¼	5½x10	3½ x 6	4 x 7	3¾x7¾
Long Bend (S-4714)	$0.30	$0.50	$0.78	$1.39	$1.95	$0.41	$0.66	$1.00
Length of inlet and outlet, inches	6	7	7¾	8¼	10	6	7	7¾
Extension Bend, Short Inlet:								
Length of inlet, inches	3½	4	3¾	4¼	5½	3½	4	3¾
" " outlet, 12 inches	$0.40	$0.56	$0.79	$1.39	$1.70	$0.52	$0.75	$0.99
" " " 15 "	.47	.67	.94	1.65	2.00	.62	.89	1.17
" " " 18 "	.55	.77	1.09	1.90	2.30	.72	1.03	1.36
" " " 20 "	.60	.84	1.19	2.07	2.48	.79	1.12	1.49
Extension Bend, Long Inlet:								
Length of inlet, inches	6	7	7¾	8¼	10	6	7	7¾
" " outlet, 12 inches	$0.46	$0.67	$0.99	$1.73	$2.15	$0.60	$0.89	$1.24
" " " 15 "	.54	.77	1.14	1.99	2.44	.70	1.03	1.42
" " " 18 "	.62	.88	1.29	2.24	2.73	.80	1.17	1.61
" " " 20 "	.67	.95	1.39	2.42	2.92	.87	1.26	1.74
For special length bends, add to list of nearest length, per inch	.03½	.04½	.06½	.10½	.12	.04½	.06	.07½

	Extra Heavy				
Sizes, inches	1¼	1½	2	3	4
Weight of lead per running foot, pounds	2½	3½	4½	6	8
Short Bend (S-4712)	$0.34	$0.62	$0.80	$1.21	$1.84
Length of inlet and outlet, inches	3½ x 6	4 x 7	3¾ x 7¾	4¼ x 8¼	5½ x 10
Long Bend (S-4714)	$0.50	$0.79	$1.05	$1.60	$2.40
Length of inlet and outlet, inches	6	7	7¾	8¼	10
Extension Bend, Short Inlet:					
Length of inlet, inches	3½	4	3¾	4¼	5½
" " outlet, 12 inches	$0.60	$0.90	$1.08	$1.57	$2.09
" " " 15 "	.72	1.07	1.28	1.87	2.45
" " " 18 "	.84	1.24	1.49	2.16	2.81
" " " 20 "	.92	1.35	1.63	2.35	3.04
Extension Bend, Long Inlet:					
Length of inlet, inches	6	7	7¾	8¼	10
" " outlet, 12 inches	$0.70	$1.07	$1.35	$1.96	$2.62
" " " 15 "	.82	1.24	1.56	2.25	2.98
" " " 18 "	.94	1.41	1.76	2.54	3.34
" " " 20 "	1.02	1.52	1.90	2.74	3.58
For special length bends, add to list of nearest length, per inch	.05	.07	.08½	.12	.15

All weights of lead bends are designated per running foot.

Plate S–4720

Combination lead and iron ferrule

Length, inches	4	4½	5	6	8	10	12
Standard Weight:							
1¼ inch for 2-inch soil pipe	—	$0.28	$0.36	$0.43	$0.51	$0.60	$0.67
1½ " " 2- " " "	—	.28	.36	.43	.51	.60	.67
2 " " 2- " " "	$0.28	—	.41	.46	.57	.67	.76
3 " " 3- " " "	.42	—	.60	.67	.82	.98	1.10
4 " " 4- " " "	.50	—	.72	.85	1.02	1.25	1.40
Extra Heavy Weight:							
1½ inch for 2-inch soil pipe	—	**.38**	**.44**	**.52**	**.61**	**.72**	**.80**
2 " " 2- " " "	**.42**	—	**.49**	**.54**	**.67**	**.81**	**.93**
3 " " 3- " " "	**.55**	—	**.75**	**.84**	**1.00**	**1.18**	**1.35**
4 " " 4- " " "	**.70**	—	**.84**	**.94**	**1.23**	**1.45**	**1.67**

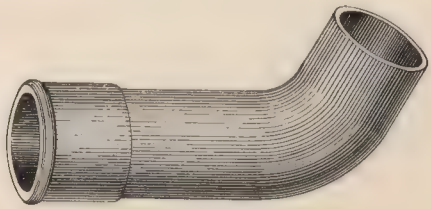


Plate S–4722

Combination lead and iron bend and ferrule

Length, inches	12	14	16	18	20
Standard Weight:					
4 inch, with short 5½-inch inlet	$2.00	$2.40	$2.60	$2.80	$3.00
4 " " long 9¾-inch "	2.65	2.85	3.04	3.23	3.42
Extra Heavy Weight:					
4 inch, with short 5½-inch inlet	**2.59**	**2.83**	**3.07**	**3.31**	**3.54**
4 " " long 9¾-inch "	**3.12**	**3.36**	**3.60**	**3.84**	**4.08**

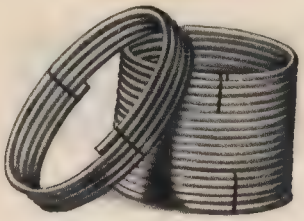


Plate S–4750

Lead pipe

Lead pipe is sold by the pound at market rates. Usual sizes are furnished in coils; the lighter weights of large sizes are sold in 10-foot lengths. When less than ⅜-inch in size, or less than 10 ounces per foot in weight, it is designated as lead tubing. Strawing, when necessary, also reels, crates, boxes, etc., are always charged extra.

List of sizes and weights per foot in coils

Sizes, inches	Double Extra Strong AAA	Special	Extra Strong AA	Strong A	Special	Medium B	Light C	Extra Light D	Aqueduct E
⅜	1¾ lbs.	—	1½ lbs.	1¼ lbs.	—	1 lb.	12 ozs.	10 ozs.	7 ozs.
½	3 lbs.	2½ lbs.	2 lbs.	1¾ lbs.	1½ lbs.	1¼ lbs.	1 lb.	12 ozs.	10 ozs.
⅝	3½ lbs.	3 lbs.	2¾ lbs.	2½ lbs.	—	2 lbs.	1¾ lbs.	1 lb.	12 ozs.
¾	4¾ lbs.	4 lbs.	3½ lbs.	3 lbs.	2 lbs.	2½ lbs.	1¾ lbs.	1¼ lbs.	1 lb.
1	6 lbs.	5 lbs.	4½ lbs.	4 lbs.	—	3½ lbs.	2½ lbs.	2 lbs.	1½ lbs.
1¼	6¾ lbs.	—	5½ lbs.	4¾ lbs.	—	3¾ lbs.	3 lbs.	2½ lbs.	2 lbs.
1½	8½ lbs.	8 lbs.	7½ lbs.	6½ lbs.	—	5 lbs.	4½ lbs.	3½ lbs.	3 lbs.
2	11¾ lbs.	—	9 lbs.	8 lbs.	—	7 lbs.	6 lbs.	4¾ lbs.	4 lbs.

Lead waste or soil pipe in 10-foot lengths

1¼-inch, 2½ pounds per foot
1½-inch, 2, 3 and 3½ pounds per foot
2- inch, 3, 4 and 5 pounds per foot
3 -inch, 3½, 5 and 6 pounds per foot
4 -inch, 5, 6 and 8 pounds per foot
5 -inch, 8, 10 and 12 pounds per foot
6 -inch, 12 pounds per foot

Lead tubing

Sizes, ⅛ and ¼-inch

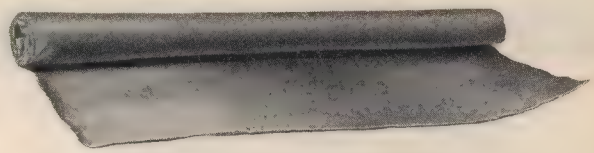


Plate S–4754

Sheet lead

Sold by the pound at market rates; boxing extra

Approximate thickness, inches.....	1/32	1/24	3/64	1/16	5/64	3/32	1/8
Average weight per square foot, pounds.	2	2½	3	4	5	6	8

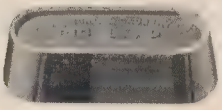


Plate S–4756

Hajoca cake lead

Sold by the pound at market rates. A cake weighs 4 to 5 pounds.

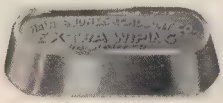


Plate S–4758

Hajoca extra wiping solder

Sold by the pound at market rates. A cake weighs about 4½ pounds.

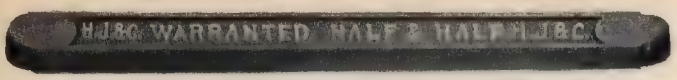


Plate S–4768
Hajoca half-and-half solder

Sold by the pound at market rates. A bar weighs about $1\frac{1}{2}$ pounds.

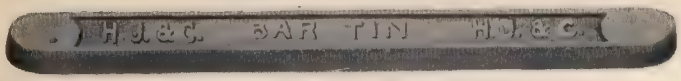


Plate S–4770
Hajoca bar tin

Sold by the pound at market rates. A bar weighs 1 to $1\frac{1}{4}$ pound.

The metals shown above are of high quality. Special attention is invited to **Hajoca** solder, in which the mixtures of tin and lead are always maintained uniform, in proportions which have been found universally satisfactory.

Points to consider when buying solder:

A cubic inch of cast tin weighs $4\frac{1}{4}$ ounces
A cubic inch of lead " $6\frac{7}{12}$ "
Be sure you don't pay for tin and get lead

Plate S–4772
Hemp rope packing

Per pound $0.15

A bale contains 100 pounds

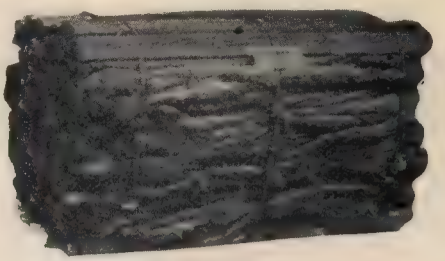


Plate S–4774

Plumbers' oakum

Per pound $0.10

A bale contains 50 pounds

Plate S–4782

Long screw

Complete with socket and follower

Sizes, inches	⅛	¼	½	¾	1	1¼	1½	2
Standard length	2½	3	3½	4	4½	5	5½	6
Black, each	$0.30	$0.35	$0.40	$0.55	$0.75	$1.00	$1.30	$1.70
Galvanized, each	.35	.40	.50	.66	1.00	1.25	1.60	2.10

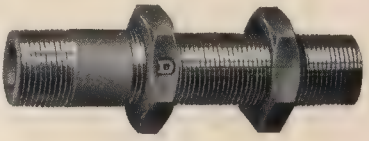


Plate S–4784

Tank screw: 6 inches long with two locknuts

Sizes, inches	½	¾	1	1¼	1½	2
Black, each	$0.65	$0.75	$1.00	$1.25	$1.50	$2.00
Galvanized, each	.98	1.13	1.50	1.87	2.25	3.00

HAJOCA WROUGHT NIPPLES

Plate S–4800
Close

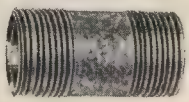


Plate S–4802
Short

Plate S-4804
Long and extra long.

Black, right hand threads

Sizes, inches	Lengths, inches			PRICES		PRICES								
	Close.	Short.	Long.	Close and Short	Long	Extra Long Lengths, Inches 4	5	6	7	8	9	10	11	12
⅛	¾	1½	2 2½ 3 3½	$0.04	$0.06	$0.07	$0.08	$0.10	$0.12	$0.14	$0.15	$0.17	$0.18	$0.19
¼	⅞	1½	2 2½ 3 3½	.04	.06	.07	.08	.10	.12	.14	.15	.17	.18	.19
⅜	1	1½	2 2½ 3 3½	.04	.06	.07	.08	.10	.12	.14	.15	.17	.18	.19
½	1⅛	1½	2 2½ 3 3½	.05	.07	.08	.10	.12	.14	.16	.18	.20	.22	.23
¾	1⅜	2	2½ 3 3½ 4	.06	.09	—	.11	.13	.17	.18	.20	.22	.24	.26
1	1½	2	2½ 3 3½ 4	.08	.13	—	.15	.18	.23	.25	.28	.31	.34	.36
1¼	1⅝	2½	3 3½ 4 4½	.11	.17	—	.20	.24	.29	.33	.36	.40	.44	.47
1½	1⅞	2½	3 3½ 4 4½	.13	.20	—	.25	.29	.36	.40	.45	.50	.54	.59
2	2	2½	3 3½ 4 4½	.18	.27	—	.32	.38	.50	.54	.59	.65	.72	.77
2½	2½	3	3½ 4 4½ 5	.39	.59	—	—	.68	.90	.97	1.06	1.17	1.26	1.35
3	2⅝	3	3½ 4 4½ 5	.48	.72	—	—	.85	1.08	1.20	1.33	1.45	1.58	1.70
3½	2⅞	4	4½ 5 5½ 6	.75	1.05	—	—	—	1.30	1.45	1.60	1.75	1.90	2.05
4	2⅞	4	4½ 5 5½ 6	.85	1.20	—	—	—	1.52	1.69	1.87	2.05	2.22	2.40
4½	2⅞	4	4½ 5 5½ 6	1.25	1.70	—	—	—	2.25	2.50	2.75	2.95	3.17	3.40
5	3	4½	5 5½ 6 6½	1.55	2.45	—	—	—	2.58	2.83	3.10	3.35	3.60	3.85
6	3⅛	4½	5 5½ 6 6½	1.85	2.90	—	—	—	3.05	3.35	3.70	4.00	4.30	4.65
7	3¼	5	– – – –	3.20	—	—	—	3.60	4.05	4.45	4.90	5.30	5.75	6.15
8	3½	5	– – – –	3.55	—	—	—	4.05	4.55	5.05	5.50	6.00	6.50	7.00
9	3⅝	5	– – – –	5.25	—	—	—	—	—	6.50	7.10	7.75	8.40	9.00
10	3⅞	5	– – – –	6.75	—	—	—	—	—	8.25	8.90	9.70	10.40	11.15
12	4½	5	– – – –	8.00	—	—	—	—	—	10.00	10.80	11.75	12.70	13.65

Nipples longer than 12 inches are charged as cut pipe, and threads extra.

HAJOCA WROUGHT NIPPLES

Black, Right and Left

Sizes, inches	Lengths, Inches					Prices		Prices								
	Close	Short	Long			Close and Short	Long	Extra Long								
								Lengths, Inches								
								4	5	6	7	8	9	10	11	12
⅛	⅜	1½	2	2½	3	$0.05	$0.08	$0.09	$0.11	$0.13	$0.16	$0.18	$0.20	$0.23	$0.25	$0.27
¼	⅜	1½	2	2½	3	.05	.08	.09	.11	.13	.16	.18	.20	.23	.25	.27
⅜	1	1½	2	2½	3	.05	.08	.09	.11	.13	.16	.18	.20	.23	.25	.27
½	1⅛	1½	2	2½	3	.07	.10	.11	.13	.16	.18	.21	.24	.27	.29	.31
¾	1⅜	2	2½	3	3½	4	.08	.12	—	.15	.17	.23	.25	.27	.29	.32	.35
1	1½	2	2½	3	3½	4	.11	.18	—	.20	.24	.31	.33	.37	.41	.45	.48
1¼	1⅝	2½	3	3½	4	4½	.15	.23	—	.27	.32	.39	.45	.50	.55	.60	.65
1½	1¾	2½	3	3½	4	4½	.18	.27	—	.34	.39	.48	.52	.60	.67	.72	.80
2	2	2½	3	3½	4	4½	.24	.36	—	.43	.51	.67	.72	.80	.87	.96	1.03
2½	2⅜	3	3½	4	4½	5	.52	.79	—	—	.91	1.20	1.30	1.40	1.55	1.68	1.80
3	2⅞	3	3½	4	4½	5	.65	.96	—	—	1.13	1.44	1.60	1.77	1.93	2.10	2.27
3½	2¾	4	4½	5	5½	6	1.00	1.40	—	—	—	1.75	1.95	2.15	2.35	2.55	2.75
4	2⅞	4	4½	5	5½	6	1.15	1.60	—	—	—	2.00	2.25	2.50	2.75	3.00	3.25

Add 60 per cent. to above prices for Galvanized Nipples, Right and Left.

Galvanized, right hand threads.

Sizes, inches	Lengths, Inches					Prices		Prices								
	Close	Short	Long			Close and Short	Long	Extra Long								
								Lengths, Inches								
								4	5	6	7	8	9	10	11	12
⅛	⅜	1½	2	2½	3	3½	$0.06	$0.11	$0.12	$0.15	$0.17	$0.21	$0.24	$0.26	$0.29	$0.31	$0.34
¼	⅜	1½	2	2½	3	3½	.06	.11	.12	.15	.17	.21	.24	.26	.29	.31	.34
⅜	1	1½	2	2½	3	3½	.06	.11	.12	.15	.17	.21	.24	.26	.29	.31	.34
½	1⅛	1½	2	2½	3	3½	.06	.11	.13	.16	.18	.23	.26	.28	.31	.33	.36
¾	1⅜	2	2½	3	3½	4	.08	.14	—	.18	.21	.26	.29	.32	.35	.38	.41
1	1½	2	2½	3	3½	4	.11	.19	—	.24	.28	.34	.38	.42	.47	.51	.55
1¼	1⅝	2½	3	3½	4	4½	.17	.29	—	.32	.38	.45	.51	.57	.63	.69	.75
1½	1¾	2½	3	3½	4	4½	.21	.35	—	.39	.46	.55	.63	.70	.77	.84	.91
2	2	2½	3	3½	4	4½	.27	.47	—	.52	.61	.74	.83	.93	1.03	1.13	1.23
2½	2⅜	3	3½	4	4½	5	.56	.86	—	—	1.00	1.26	1.41	1.56	1.71	1.86	2.01
3	2⅞	3	3½	4	4½	5	.70	1.10	—	—	1.30	1.60	1.80	2.00	2.20	2.40	2.60
3½	2¾	4	4½	5	5½	6	1.20	1.70	—	—	—	2.10	2.35	2.60	2.85	3.15	3.40
4	2⅞	4	4½	5	5½	6	1.35	1.87	—	—	—	2.30	2.60	2.90	3.20	3.50	3.80
4½	2⅞	4	4½	5	5½	6	1.85	2.60	—	—	—	3.30	3.65	4.05	4.45	4.85	5.25
5	3	4½	5	5½	6	6½	2.30	3.15	—	—	—	3.75	4.20	4.60	5.00	5.40	5.85
6	3⅛	4½	5	5½	6	6½	2.80	4.25	—	—	—	4.50	5.00	5.55	6.05	6.60	7.15
7	3¼	5	–	–	–	–	4.25	—	—	—	4.95	5.65	6.35	7.05	7.75	8.45	9.20
8	3½	5	–	–	–	–	5.00	—	—	—	5.80	6.65	7.50	8.35	9.25	10.10	10.95

WROUGHT PIPE

For Water, Steam, Gas, etc.

(Price list adopted January 1, 1913)

Full standard weight pipe, black and galvanized

Nominal inside diameter, inches	Price, Per foot, black or galvanized	Nominal weight per foot, pounds	Nominal thickness, inches	Approximate number of feet*		Gallons of water in one lineal foot
				In Length	In Bundle	
⅛	$0.05½	.245	.068	16	400	.003
¼	.06	.425	.088	17	350	.005
⅜	.06	.568	.091	18	330	.010
½	.08½	.852	.109	20	225	.016
¾	.11½	1.134	.113	20	140	.028
1	.17	1.684	.133	20	100	.045
1¼	.23	2.281	.140	20	60	.078
1½	.27½	2.731	.145	20	60	.106
2	.37	3.678	.154	20	—	.174
2½	.58½	5.819	.203	20	—	.249
3	.76½	7.616	.216	20	—	.384
3½	.92	9.202	.226	20	—	.514
4	1.09	10.889	.237	20	—	.661
4½	1.27	12.642	.247	20	—	.829
5	1.48	14.810	.258	20	—	1.039
6	1.92	19.185	.280	20	—	1.502
7	2.38	23.769	.301	20	—	2.012
8	2.50	25.000	.277	20	—	2.660
8	2.88	28.809	.322	20	—	2.597
9	3.45	34.188	.342	20	—	3.257
10	3.20	32.000	.279	20	—	4.237
10	3.50	35.000	.307	20	—	4.184
10	4.12	41.132	.365	20	—	4.098
11	4.63	46.247	.375	20	—	4.926
12	4.50	45.000	.330	20	—	5.952
12	5.07	50.706	.375	20	—	5.882

*These measurements are approximate only, and will vary with each length or bundle.

Unless otherwise ordered, black pipe, random lengths, with threads and couplings will be shipped.

For cut lengths an extra charge will be made above random lengths.

Strictly Wrought Iron Pipe

A large proportion of the wrought pipe sold is made of soft steel, which has been found thoroly satisfactory for the majority of purposes for which wrought pipe is used. Where pipe made of iron and not steel is required, we are prepared to fill orders for **guaranteed strictly wrought iron pipe** of all sizes and weights. This pipe takes the same list prices as regular wrought pipe, and must be specially designated as above when ordering, otherwise regular wrought steel pipe will be sent.

WROUGHT PIPE

For Water, Steam, Gas, etc.
(Price list adopted January 1, 1913)

Extra strong pipe, black and galvanized

Sizes, inches	Price, per foot, black or galvanized	Nominal outside diameter, inches	Nominal inside diameter, inches	Nominal thickness, inches	Nominal weight per foot, pounds	Gallons of water in one lineal foot
⅛	$0.12	.405	.215	.095	.314	.002
¼	.07½	.540	.302	.119	.535	.004
⅜	.07½	.675	.423	.126	.738	.007
½	.11	.840	.546	.147	1.087	.012
¾	.15	1.05	.742	.154	1.473	.022
1	.22	1.315	.957	.179	2.171	.037
1¼	.30	1.66	1.278	.191	2.996	.067
1½	.36½	1.90	1.500	.200	3.631	.092
2	.50½	2.375	1.939	.218	5.022	.154
2½	.77	2.875	2.323	.276	7.661	.220
3	1.03	3.500	2.900	.300	10.252	.343
3½	1.25	4.000	3.364	.318	12.505	.462
4	1.50	4.500	3.826	.337	14.983	.597
4½	1.80	5.000	4.290	.355	17.611	.751
5	2.08	5.563	4.813	.375	20.778	.945
6	2.86	6.625	5.761	.432	28.573	1.353
7	3.81	7.625	6.625	.500	38.048	1.792
8	4.34	8.625	7.625	.500	43.388	2.370

Double extra strong pipe, black and galvanized

½	$0.32	.84	.252	.294	1.714	.003
¾	.35	1.05	.434	.308	2.440	.008
1	.37	1.315	.599	.358	3.659	.015
1¼	.52½	1.66	.896	.382	5.214	.033
1½	.65	1.90	1.100	.400	6.408	.049
2	.91	2.375	1.503	.436	9.029	.092
2½	1.37	2.875	1.771	.552	13.695	.127
3	1.86	3.50	2.300	.600	18.583	.216
3½	2.30	4.00	2.728	.636	22.850	.304
4	2.76	4.50	3.152	.674	27.541	.405
4½	3.26	5.00	3.580	.710	32.530	.523
5	3.86	5.563	4.063	.75	38.552	.673
6	5.32	6.625	4.897	.864	53.160	.978
7	6.35	7.625	5.875	.875	63.079	1.408
8	7.25	8.625	6.875	.875	72.424	1.927

Extra strong and double extra strong pipe will be shipped in random lengths and plain ends unless otherwise ordered.

Random length extra strong and double extra strong pipe is considered to be 12 feet to 22 feet. We have the privilege, however, of supplying not exceeding 5 per cent. of total order in lengths from 6 feet to 12 feet.

For pipe fitted with threads and couplings an extra charge will be made above regular.

For cut lengths an extra charge will be made above random.

Plate S–4820
Plug

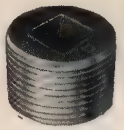


Plate S–4822
Countersunk plug

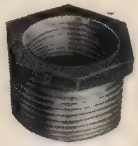


Plate S–4824
Bushing

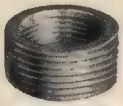


Plate S–4826
Faced bushing

Sizes, inches	Plate S-4820 Black	Plate S-4820 Galv.	Plate S-4822 Black	Plate S-4824 Black	Plate S-4824 Galv.	Plate S-4826 Black
⅛	$0.02	$0.04	—	—	—	—
¼	.02	.04	—	$0.04	$0.08	$0.08
⅜	.02	.04	$0.04	.04	.08	.08
½	.02	.04	.04	.04	.08	.09
¾	.03	.06	.06	.05	.10	.11
1	.04	.08	.08	.06	.12	.13
1¼	.05	.10	.09	.07	.14	.17
1½	.07	.14	.11	.09	.18	.22
2	.10	.20	.15	.14	.28	.32
2½	.18	.36	.25	.21	.42	.48
3	.25	.50	.38	.30	.60	.70
3½	.38	.76	.57	.40	.80	1.20
4	.42	.84	.63	.50	1.00	1.50
4½	.65	1.30	—	.75	1.50	2.10
5	.88	1.75	—	.93	1.85	2.60
6	1.20	2.40	—	1.25	2.50	3.75
7	1.85	3.70	—	1.87	3.75	—
8	2.75	5.50	—	2.75	5.50	—

List of standard sizes of bushings

Regular bushings, plate S-4824, can be furnished in any of the sizes noted below; faced bushings plate S-4826 are furnished only in sizes marked *.

¼ x ⅛*
⅜ x ⅛*
⅜ x ¼*
½ x ⅛*
½ x ¼*
½ x ⅜*
¾ x ⅛*
¾ x ¼*
¾ x ⅜*
¾ x ½*
1 x ⅛*
1 x ¼*
1 x ⅜*
1 x ½*
1 x ¾*

1¼ x ⅛*
1¼ x ¼*
1¼ x ⅜*
1¼ x ½*
1¼ x ¾*
1¼ x 1 *
1½ x ⅛*
1½ x ¼*
1½ x ⅜*
1½ x ½*
1½ x ¾*
1½ x 1 *
1½ x 1¼*
2 x ¼
2 x ⅜*
2 x ½
2 x ¾*

2 x 1 *
2 x 1¼*
2 x 1½*
2½ x ½*
2½ x ¾*
2½ x 1 *
2½ x 1¼*
2½ x 1½*
2½ x 2 *
3 x ⅜
3 x ½
3 x ¾
3 x 1 *
3 x 1¼*
3 x 1½*
3 x 2 *
3 x 2½*

3½ x ½
3½ x ¾
3½ x 1 *
3½ x 1¼*
3½ x 1½
3½ x 2 *
3½ x 2½*
3½ x 3 *
4 x ½
4 x ¾
4 x 1 *
4 x 1¼
4 x 1½*
4 x 2 *
4 x 2½*
4 x 3 *
4 x 3½*

4½ x 2
4½ x 2½*
4½ x 3 *
4½ x 3½*
4½ x 4 *
5 x 1¼*
5 x 1½*
5 x 2 *
5 x 2½*
5 x 3 *
5 x 3½*
5 x 4 *
5 x 4½*
6 x 1
6 x 1¼*
6 x 1½*
6 x 2 *
6 x 2½*
6 x 3 *
6 x 3½*

6 x 4 *
6 x 4½*
6 x 5 *
7 x 2
7 x 2½
7 x 3
7 x 3½
7 x 4 *
7 x 4½
7 x 5 *
7 x 6 *
8 x 2
8 x 2½
8 x 3
8 x 3½
8 x 4 *
8 x 4½
8 x 5
8 x 6 *
8 x 7 *

Regular bushings reducing one size only, up to 2-inch inclusive are malleable; faced bushings reducing one size only, up to 5-inch inclusive are malleable; all other sizes, regular and faced, are gray iron.

MALLEABLE IRON FITTINGS

Plate S-4830
Elbow with band

(Classification and Price List of standard sizes, adopted September 15, 1919, with revisions.) For other than standard sizes an additional charge will be made.

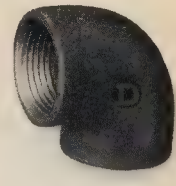


Plate S-4832
Elbow, plain

Size	Class	Price per Pound Black	Galv.
1/8"	A	$0.46	$0.58
1/4"	B	.20	.28
3/8 x 1/4"	B	.20	.28
3/8"	B	.20	.28
1/2 x 1/4"	B	.20	.28
1/2 x 3/8"	B	.20	.28
1/2"	B	.20	.28
3/4 x 3/8"	B	.20	.28
3/4 x 1/2"	B	.20	.28
3/4"	C	.13	.20
1 x 3/8"	B	.20	.28
1 x 1 1/4"	B	.20	.28
1 x 3/4"	C	.13	.20
1"	C	.13	.20
1 1/4 x 1/2"	B	.20	.28
1 1/4 x 3/4"	C	.13	.20
1 1/4 x 1"	C	.13	.20
1 1/4"	C	.13	.20
1 1/2 x 3/4"	C	.13	.20
1 1/2 x 1"	C	.13	.20
1 1/2 x 1 1/4"	C	.13	.20
1 1/2"	C	.13	.20
2 x 1"	C	.13	.20
2 x 1 1/4"	C	.13	.20
2 x 1 1/2"	C	.13	.20
2"	C	.13	.20
2 1/2"	C	.13	.20
2 1/2 x 1 1/2"	C	.13	.20
2 1/2 x 2"	C	.13	.20
3"	C	.13	.20
3 x 2"	C	.13	.20
3 x 2 1/2"	C	.13	.20
3 1/2"	C	.13	.20
3 1/2 x 3"	C	.13	.20
4"	C	.13	.20
4 x 3"	C	.13	.20
4 1/2"	C	.13	.20
5"	C	.13	.20
6"	C	.13	.20

Size	Class	Price per Pound Black	Galv.
1/8"	A	$0.46	$0.58
1/4 x 1/8"	A	.46	.58
1/4"	B	.23	.33
3/8 x 1/8"	A	.46	.58
3/8 x 1/4"	B	.23	.33
3/8"	B	.23	.33
1/2 x 1/4"	B	.23	.33
1/2 x 3/8"	B	.23	.33
1/2"	B	.23	.33
3/4 x 3/8"	B	.23	.33
3/4 x 1/2"	B	.23	.33
3/4"	C	.15	.23
1 x 3/8"	B	.23	.33
1 x 1/2"	B	.23	.33
1 x 3/4"	C	.15	.23
1"	C	.15	.23
1 1/4 x 3/4"	C	.15	.23
1 1/4 x 1"	C	.15	.23
1 1/4"	C	.15	.23
1 1/2 x 1"	C	.15	.23
1 1/2 x 1 1/4"	C	.15	.23
1 1/2"	C	.15	.23
2 x 1 1/4"	C	.15	.23
2 x 1 1/2"	C	.15	.23
2"	C	.15	.23

(R. & L. Ells banded only 1/4 to 2" take one class higher than Right Hand.)

MALLEABLE IRON FITTINGS

Plate S-4834
60° elbow, plain

Size	Class	Price per Pound Black	Galv.
1½"	B	$0.23	$0.33
2"	B	.23	.33

Plate S-4836
45° elbow with band

Size	Class	Price per Pound Black	Galv.
⅛"	A	$0.46	$0.58
¼"	B	.20	.28
⅜"	B	.20	.28
½"	B	.20	.28
¾"	B	.20	.28
1"	B	.20	.28
1¼"	B	.20	.28
1½"	B	.20	.28
2½"	C	.13	.20
3"	C	.13	.20
3½"	C	.13	.20
4"	C	.13	.20
4½"	C	.13	.20
5"	C	.13	.20
6"	C	.13	.20

Plate S-4842
Service or street elbow with band, taper body.

Size	Class	Price per Pound Black	Galv.
⅛"	A	$0.46	$0.58
¼"	B	.20	.28
⅜"	B	.20	.28
½"	B	.20	.28
¾ x ½"	B	.20	.28
¾"	B	.20	.28
1 x ¾"	B	.20	.28
1"	C	.13	.20
1¼"	C	.13	.20
1½ x 1¼"	C	.13	.20
1½"	C	.13	.20
2 x 1½"	C	.13	.20
2"	C	.13	.20
2½"	C	.13	.20
3"	C	.13	.20
4"	C	.13	.20

MALLEABLE IRON FITTINGS

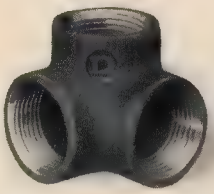


Plate S-4844

Side outlet elbow, plain

Size	Class	Price per Pound Black	Galv.
$\frac{3}{8}$"	B	$0.23	$0.33
$\frac{1}{2}$"	B	.23	.33
$\frac{3}{4}$"	B	.23	.33
1"	B	.23	.33
$1\frac{1}{4}$"	B	.23	.33
$1\frac{1}{2}$"	B	.23	.33
2"	B	.23	.33

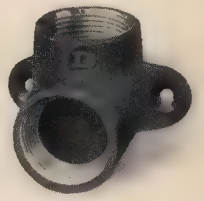


Plate S-4846

Drop elbow, inside thread, plain

Size	Class	Price per Pound Black	Galv.
$\frac{1}{4}$"	B	$0.23	$0.33
$\frac{3}{8}$"	B	.23	.33
$\frac{1}{2}$"	B	.23	.33
$\frac{3}{4}$"	B	.23	.33

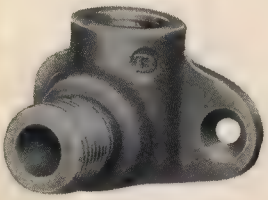


Plate S–4848

Short drop elbow, outside and inside thread, plain.

Size	Class	Price per Pound Black	Galv.
$\frac{3}{8}$"	B	$0.23	$0.33

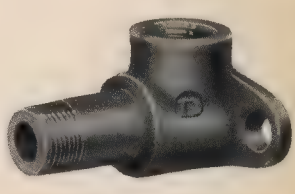


Plate S–4850

Long drop elbow, outside and inside thread, plain.

Size	Class	Price per Pound Black	Galv.
$\frac{3}{8}$"	B	$0.23	$0.33
$\frac{1}{2}$"	B	.23	.33

MALLEABLE IRON FITTINGS

Plate S-4854
T, with band

In describing tees, the run is named first, then the outlet, thus:

$1\frac{1}{2} \perp \frac{3}{4}$ reads 1 x $\frac{3}{4}$ x $\frac{1}{2}$; $\frac{1}{2}\frac{3}{8} \perp \frac{1}{2}$ reads $\frac{1}{2}$ x $\frac{3}{8}$.

Size	Class	Price per Pound Black	Galv.
$\frac{1}{8}$"	A	$0.46	$0.58
$\frac{1}{4}$ x $\frac{3}{8}$"	B	.20	.28
$\frac{1}{4}$"	B	.20	.28
$\frac{3}{8}$ x $\frac{1}{4}$"	B	.20	.28
$\frac{3}{8}$ x $\frac{1}{2}$"	B	.20	.28
$\frac{3}{8}$ x $\frac{3}{4}$"	B	.20	.28
$\frac{3}{8}$"	B	.20	.28
$\frac{1}{2}$ x $\frac{3}{8}$ x $\frac{3}{8}$"	B	.20	.28
$\frac{1}{2}$ x $\frac{1}{4}$ x $\frac{1}{2}$"	B	.20	.28
$\frac{1}{2}$ x $\frac{3}{8}$ x $\frac{1}{2}$"	B	.20	.28
$\frac{1}{2}$ x $\frac{3}{8}$ x $\frac{3}{4}$"	B	.20	.28
$\frac{1}{2}$ x $\frac{1}{4}$"	B	.20	.28
$\frac{1}{2}$ x $\frac{3}{8}$"	B	.20	.28
$\frac{1}{2}$ x $\frac{3}{4}$"	B	.20	.28
$\frac{1}{2}$"	B	.20	.28
$\frac{3}{4}$ x $\frac{3}{8}$ x $\frac{3}{8}$"	B	.20	.28
$\frac{3}{4}$ x $\frac{3}{8}$ x $\frac{1}{2}$"	B	.20	.28
$\frac{3}{4}$ x $\frac{3}{8}$ x $\frac{3}{4}$"	B	.20	.28
$\frac{3}{4}$ x $\frac{1}{2}$ x $\frac{3}{8}$"	B	.20	.28
$\frac{3}{4}$ x $\frac{1}{2}$ x $\frac{1}{2}$"	B	.20	.28
$\frac{3}{4}$ x $\frac{1}{2}$ x $\frac{3}{4}$"	B	.20	.28
$\frac{3}{4}$ x $\frac{1}{2}$ x 1"	B	.20	.28
$\frac{3}{4}$ x $\frac{1}{4}$"	B	.20	.28
$\frac{3}{4}$ x $\frac{3}{8}$"	B	.20	.28
$\frac{3}{4}$ x $\frac{1}{2}$"	B	.20	.28
$\frac{3}{4}$ x 1"	C	.13	.20
$\frac{3}{4}$"	C	.13	.20
1 x $\frac{3}{8}$ x 1"	B	$0.20	$0.28
1 x $\frac{1}{2}$ x $\frac{1}{2}$"	B	.20	.28
1 x $\frac{1}{2}$ x $\frac{3}{4}$"	B	.20	.28
1 x $\frac{1}{2}$ x 1"	B	.20	.28
1 x $\frac{3}{4}$ x $\frac{3}{8}$"	B	.20	.28
1 x $\frac{3}{4}$ x $\frac{1}{2}$"	B	.20	.28
1 x $\frac{3}{4}$ x $\frac{3}{4}$"	C	.13	.20
1 x $\frac{3}{4}$ x 1"	C	.13	.20
1 x $\frac{1}{4}$"	B	.20	.28
1 x $\frac{3}{8}$"	B	.20	.28
1 x $\frac{1}{2}$"	B	.20	.28
1 x $\frac{3}{4}$"	C	.13	.20
1 x $1\frac{1}{4}$"	C	.13	.20
1 x $1\frac{1}{2}$"	C	.13	.20
1"	C	.13	.20
$1\frac{1}{4}$ x $\frac{3}{8}$ x $1\frac{1}{4}$"	B	.20	.28
$1\frac{1}{4}$ x $\frac{1}{2}$ x $1\frac{1}{4}$"	B	.20	.28
$1\frac{1}{4}$ x $\frac{3}{4}$ x $\frac{3}{4}$"	C	.13	.20
$1\frac{1}{4}$ x $\frac{3}{4}$ x 1"	C	.13	.20
$1\frac{1}{4}$ x $\frac{3}{4}$ x $1\frac{1}{4}$"	C	.13	.20
$1\frac{1}{4}$ x 1 x $\frac{1}{2}$"	B	.20	.28
$1\frac{1}{4}$ x 1 x $\frac{3}{4}$"	C	.13	.20
$1\frac{1}{4}$ x 1 x 1"	C	.13	.20
$1\frac{1}{4}$ x 1 x $1\frac{1}{4}$"	C	.13	.20
$1\frac{1}{4}$ x $\frac{3}{8}$"	B	.20	.28
$1\frac{1}{4}$ x $\frac{1}{2}$"	B	.20	.28
$1\frac{1}{4}$ x $\frac{3}{4}$"	C	.13	.20
$1\frac{1}{4}$ x 1"	C	.13	.20
$1\frac{1}{4}$ x $1\frac{1}{2}$"	C	.13	.20
$1\frac{1}{4}$ x 2"	C	.13	.20
$1\frac{1}{4}$"	C	.13	.20

MALLEABLE IRON FITTINGS

Plate S-4854. T, with band—Continued

Size	Class	Price per Pound Black	Price per Pound Galv.
1½ x ½ x 1½"	B	$0.20	$0.28
1½ x ¾ x ¾"	C	.13	.20
1½ x ¾ x 1½"	C	.13	.20
1½ x 1 x ¾"	C	.13	.20
1½ x 1 x 1"	C	.13	.20
1½ x 1 x 1¼"	C	.13	.20
1½ x 1 x 1½"	C	.13	.20
1½ x 1¼ x ¾"	C	.13	.20
1½ x 1¼ x 1"	C	.13	.20
1½ x 1¼ x 1¼"	C	.13	.20
1½ x 1¼ x 1½"	C	.13	.20
1½ x ⅜"	B	.20	.28
1½ x ½"	B	.20	.28
1½ x ¾"	C	.13	.20
1½ x 1"	C	.13	.20
1½ x 1¼"	C	.13	.20
1½ x 2"	C	.13	.20
1½"	C	.13	.20
2 x ¾ x 2"	C	.13	.20
2 x 1 x 2"	C	.13	.20
2 x 1¼ x 1¼"	C	.13	.20
2 x 1¼ x 1½"	C	.13	.20
2 x 1¼ x 2"	C	.13	.20
2 x 1½ x 1"	C	.13	.20
2 x 1½ x 1¼"	C	.13	.20
2 x 1½ x 1½"	C	.13	.20
2 x 1½ x 2"	C	.13	.20
2 x ⅜"	B	.20	.28
2 x ½"	B	.20	.28
2 x ¾"	C	.13	.20
2 x 1"	C	.13	.20
2 x 1¼"	C	.13	.20
2 x 1½"	C	.13	.20
2 x 2½"	C	.13	.20
2"	C	.13	.20
2½ x 1½ x 2½"	C	.13	.20
2½ x 2 x 2"	C	.13	.20
2½ x 2 x 2½"	C	.13	.20
2½ x ¾"	C	.13	.20
2½ x 1"	C	.13	.20
2½ x 1¼"	C	.13	.20
2½ x 1½"	C	.13	.20
2½ x 2"	C	.13	.20
2½"	C	.13	.20
2½ x 3"	C	.13	.20
3 x 2 x 2"	C	.13	.20
3 x 2 x 3"	C	.13	.20
3 x 2½ x 3"	C	.13	.20
3 x 1"	C	.13	.20
3 x 1¼"	C	.13	.20
3 x 1½"	C	.13	.20
3 x 2"	C	.13	.20
3 x 2½"	C	.13	.20
3"	C	.13	.20
3½ x 2½"	C	.13	.20
3½ x 3"	C	.13	.20
3½"	C	.13	.20
4 x 1½"	C	.13	.20
4 x 2"	C	.13	.20
4 x 2½"	C	.13	.20
4 x 3"	C	.13	.20
4"	C	.13	.20
4½"	C	.13	.20
5"	C	.13	.20
5 x 3"	C	.13	.20
6 x 2"	C	.13	.20
6 x 2½"	C	.13	.20
6 x 3"	C	.13	.20
6 x 4"	C	.13	.20
6"	C	.13	.20

MALLEABLE IRON FITTINGS

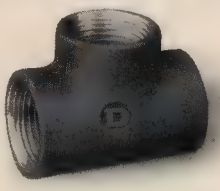


Plate S–4856
T, plain

Size	Class	Price per Pound Black	Galv.
1/8"	A	$0.46	$0.58
1/4 x 1/8"	A	.46	.58
1/4 x 3/8"	B	.23	.33
1/4"	B	.23	.33
3/8 x 1/8"	A	.46	.58
3/8 x 1/4"	B	.23	.33
3/8 x 1/2"	B	.23	.33
3/8 x 3/4"	B	.23	.33
3/8"	B	.23	.33
1/2 x 3/8 x 3/8"	B	.23	.33
1/2 x 1/4 x 1/2"	B	.23	.33
1/2 x 3/8 x 1/2"	B	.23	.33
1/2 x 3/8 x 3/4"	B	.23	.33
1/2 x 1/4"	B	.23	.33
1/2 x 3/8"	B	.23	.33
1/2 x 3/4"	B	.23	.33
1/2"	B	.23	.33
3/4 x 3/8 x 3/8"	B	.23	.33
3/4 x 3/8 x 1/2"	B	.23	.33
3/4 x 3/8 x 3/4"	B	.23	.33
3/4 x 1/2 x 3/8"	B	.23	.33
3/4 x 1/2 x 1/2"	B	.23	.33
3/4 x 1/2 x 3/4"	B	.23	.33
3/4 x 1/2 x 1"	B	.23	.33
3/4 x 1/4"	B	.23	.33
3/4 x 3/8"	B	.23	.33
3/4 x 1/2"	B	.23	.33
3/4 x 1"	C	.15	.23
3/4"	C	.15	.23
1 x 3/8 x 1"	B	.23	.33
1 x 1/2 x 1/2"	B	.23	.33
1 x 1/2 x 3/4"	B	.23	.33
1 x 1/2 x 1"	B	.23	.33
1 x 3/4 x 3/8"	B	.23	.33
1 x 3/4 x 1/2"	B	.23	.33
1 x 3/4 x 3/4"	C	.15	.23
1 x 3/4 x 1"	C	.15	.23
1 x 1/4"	B	.23	.33
1 x 3/8"	C	.15	.23
1 x 1/2"	C	.15	.23
1 x 3/4"	C	.15	.23
1"	C	.15	.23
1 1/4 x 3/4 x 3/4"	C	.15	.23
1 1/4 x 3/4 x 1"	C	.15	.23
1 1/4 x 3/4 x 1 1/4"	C	.15	.23
1 1/4 x 1 x 3/4"	C	.15	.23
1 1/4 x 1 x 1"	C	.15	.23
1 1/4 x 1 x 1 1/4"	C	.15	.23
1 1/4 x 3/8"	B	.23	.33
1 1/4 x 1/2"	B	.23	.33
1 1/4 x 3/4"	C	.15	.23
1 1/4 x 1"	C	.15	.23
1 1/4 x 1 1/2"	C	.15	.23
1 1/4 x 2"	C	.15	.23
1 1/4"	C	.15	.23
1 1/2 x 1 1/4 x 1 1/4"	C	.15	.23
1 1/2 x 1 1/4 x 1 1/2"	C	.15	.23
1 1/2 x 3/8"	B	.23	.33
1 1/2 x 1/2"	B	.23	.33
1 1/2 x 3/4"	C	.15	.23
1 1/2 x 1"	C	.15	.23
1 1/2 x 1 1/4"	C	.15	.23
1 1/2 x 2"	C	.15	.23
1 1/2"	C	.15	.23
2 x 1 1/2 x 1 1/2"	C	.15	.23
2 x 1 1/2 x 2"	C	.15	.23
2 x 3/4"	C	.15	.23
2 x 1"	C	.15	.23
2 x 1 1/4"	C	.15	.23
2 x 1 1/2"	C	.15	.23
2"	C	.15	.23

MALLEABLE IRON FITTINGS

Plate S–4858
Drop T, inside thread, plain

Size	Class	Price per Pound Black	Galv.
$\frac{3}{8}$"	B	$0.23	$0.33
$\frac{1}{2}$ x $\frac{3}{8}$"	B	.23	.33
$\frac{1}{2}$"	B	.23	.33
$\frac{3}{4}$ x $\frac{1}{2}$"	B	.23	.33
$\frac{3}{4}$"	B	.23	.33

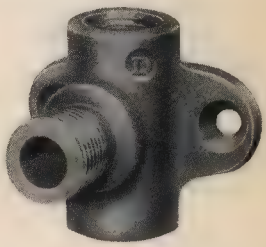


Plate S–4859
Short drop T, outside and inside thread, plain

Size	Class	Price per Pound Black	Galv.
$\frac{3}{8}$"	B	$0.23	$0.33

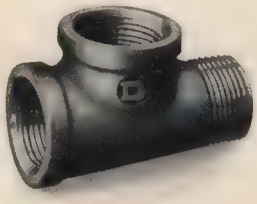


Plate S-4860
Service T, with band

Size	Class	Price per Pound Black	Galv.
$\frac{3}{8}$"	B	$0.20	$0.28
$\frac{1}{2}$"	B	.20	.28
$\frac{3}{4}$"	B	.20	.28
1 x $\frac{3}{4}$"	B	.20	.28
1"	C	.13	.20
$1\frac{1}{4}$ x $\frac{3}{4}$ x $1\frac{1}{4}$"	C	.13	.20
$1\frac{1}{4}$ x 1 x $1\frac{1}{4}$"	C	.13	.20
$1\frac{1}{4}$"	C	.13	.20
$1\frac{1}{2}$ x $1\frac{1}{4}$ x $1\frac{1}{2}$"	C	.13	.20
$1\frac{1}{2}$"	C	.13	.20
2 x $1\frac{1}{2}$ x 2".	C	.13	.20
2"	C	.13	.20

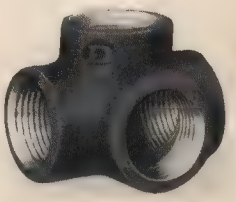


Plate S-4862
Side outlet T, plain

Size	Class	Price per Pound Black	Galv.
$\frac{3}{8}$"	B	$0.23	$0.33
$\frac{1}{2}$"	B	.23	.33
$\frac{3}{4}$"	B	.23	.33
1"	B	.23	.33
$1\frac{1}{4}$"	B	.23	.33
$1\frac{1}{2}$"	B	.23	.33
2"	B	.23	.33

MALLEABLE IRON FITTINGS

Plate S-4870
Cross with band

Plate 4872
Cross, plain

Reducing crosses are described as follows: $1\text{—}\frac{\frac{1}{2}}{\frac{1}{2}}\text{—}1$ reads $1 \times \frac{1}{2}$.

Size	Class	Price per Pound Black	Galv.
1/4"	B	$0.20	$0.28
3/8"	B	.20	.28
1/2 x 3/8"	B	.20	.28
1/2"	B	.20	.28
3/4 x 3/8"	B	.20	.28
3/4 x 1/2"	B	.20	.28
3/4"	B	.20	.28
1 x 3/8"	B	.20	.28
1 x 1/2"	B	.20	.28
1 x 3/4"	B	.20	.28
1"	B	.20	.28
1 1/4 x 1/2"	B	.20	.28
1 1/4 x 3/4"	C	.13	.20
1 1/4 x 1"	C	.13	.20
1 1/4"	C	.13	.20
1 1/2 x 3/4"	C	.13	.20
1 1/2 x 1"	C	.13	.20
1 1/2 x 1 1/4"	C	.13	.20
1 1/2"	C	.13	.20
2 x 3/4"	C	.13	.20
2 x 1"	C	.13	.20
2 x 1 1/4"	C	.13	.20
2 x 1 1/2"	C	.13	.20
2"	C	.13	.20
2 1/2 x 2"	C	.13	.20
2 1/2"	C	.13	.20
3 x 2"	C	.13	.20
3"	C	.13	.20
3 1/2"	C	.13	.20
4 x 2"	C	.13	.20
4"	C	.13	.20
5"	C	.13	.20
6"	C	.13	.20

Size	Class	Price per Pound Black	Galv.
1/4"	B	$0.23	$0.33
3/8"	B	.23	.33
1/2 x 3/8"	B	.23	.33
1/2"	B	.23	.33
3/4 x 3/8"	B	.23	.33
3/4 x 1/2"	B	.23	.33
3/4"	B	.23	.33
1 x 3/8"	B	.23	.33
1 x 1/2"	B	.23	.33
1 x 3/4"	B	.23	.33
1"	B	.23	.33
1 1/4 x 3/4"	C	.15	.23
1 1/4 x 1"	C	.15	.23
1 1/4"	C	.15	.23
1 1/2 x 1"	C	.15	.23
1 1/2 x 1 1/4"	C	.15	.23
1 1/2"	C	.15	.23
2 x 1"	C	.15	.23
2 x 1 1/4"	C	.15	.23
2 x 1 1/2"	C	.15	.23
2"	C	.15	.23

MALLEABLE IRON FITTINGS

Plate S–4876
Reducing coupling, with band

Size	Class	Price per Pound Black	Galv.
$\frac{3}{8}$ x $\frac{1}{4}$"	B	$0.20	$0.28
$\frac{1}{2}$ x $\frac{3}{8}$"	B	.20	.28
$\frac{1}{2}$ x $\frac{1}{4}$"	B	.20	.28
$\frac{3}{4}$ x $\frac{1}{4}$"	B	.20	.28
$\frac{3}{4}$ x $\frac{3}{8}$"	B	.20	.28
$\frac{3}{4}$ x $\frac{1}{2}$"	B	.20	.28
1 x $\frac{1}{4}$"	B	.20	.28
1 x $\frac{3}{8}$"	B	.20	.28
1 x $\frac{1}{2}$"	B	.20	.28
1 x $\frac{3}{4}$"	B	.20	.28
1$\frac{1}{4}$ x $\frac{3}{8}$"	B	.20	.28
1$\frac{1}{4}$ x $\frac{1}{2}$"	B	.20	.28
1$\frac{1}{4}$ x $\frac{3}{4}$"	C	.13	.20
1$\frac{1}{4}$ x 1"	C	.13	.20
1$\frac{1}{2}$ x $\frac{1}{2}$"	B	.20	.28
1$\frac{1}{2}$ x $\frac{3}{4}$"	C	.13	.20
1$\frac{1}{2}$ x 1"	C	.13	.20
1$\frac{1}{2}$ x 1$\frac{1}{4}$"	C	.13	.20
2 x $\frac{3}{8}$"	B	.20	.28
2 x $\frac{1}{2}$"	B	.20	.28
2 x $\frac{3}{4}$"	C	.13	.20
2 x 1"	C	.13	.20
2 x 1$\frac{1}{4}$"	C	.13	.20
2 x 1$\frac{1}{2}$"	C	.13	.20
2$\frac{1}{2}$ x 1"	C	.13	.20
2$\frac{1}{2}$ x 1$\frac{1}{4}$"	C	.13	.20
2$\frac{1}{2}$ x 1$\frac{1}{2}$"	C	.13	.20
2$\frac{1}{2}$ x 2"	C	.13	.20
3 x 1"	C	.13	.20
3 x 1$\frac{1}{4}$"	C	.13	.20
3 x 1$\frac{1}{2}$"	C	.13	.20
3 x 2"	C	.13	.20
3 x 2$\frac{1}{2}$"	C	.13	.20
3$\frac{1}{2}$ x 2"	C	.13	.20
3$\frac{1}{2}$ x 2$\frac{1}{2}$"	C	.13	.20
3$\frac{1}{2}$ x 3"	C	.13	.20
4 x 2"	C	.13	.20
4 x 2$\frac{1}{2}$"	C	.13	.20
4 x 3"	C	.13	.20
4 x 3$\frac{1}{2}$"	C	.13	.20

Plate S–4878
Reducing coupling, plain

Size	Class	Price per Pound Black	Galv.
$\frac{1}{4}$ x $\frac{1}{8}$"	A	$0.46	$0.58
$\frac{3}{8}$ x $\frac{1}{4}$"	B	.23	.33
$\frac{3}{8}$ x $\frac{1}{8}$"	A	.46	.58
$\frac{1}{2}$ x $\frac{3}{8}$"	B	.23	.33
$\frac{1}{2}$ x $\frac{1}{4}$"	B	.23	.33
$\frac{3}{4}$ x $\frac{1}{4}$"	B	.23	.33
$\frac{3}{4}$ x $\frac{3}{8}$"	B	.23	.33
$\frac{3}{4}$ x $\frac{1}{2}$"	B	.23	.33
1 x $\frac{1}{4}$"	B	.23	.33
1 x $\frac{3}{8}$"	B	.23	.33
1 x $\frac{1}{2}$"	B	.23	.33
1 x $\frac{3}{4}$"	B	.23	.33
1$\frac{1}{4}$ x $\frac{3}{8}$"	B	.23	.33
1$\frac{1}{4}$ x $\frac{1}{2}$"	B	.23	.33
1$\frac{1}{4}$ x $\frac{3}{4}$"	C	.15	.23
1$\frac{1}{4}$ x 1"	C	.15	.23
1$\frac{1}{2}$ x $\frac{1}{2}$"	B	.23	.33
1$\frac{1}{2}$ x $\frac{3}{4}$"	C	.15	.23
1$\frac{1}{2}$ x 1"	C	.15	.23
1$\frac{1}{2}$ x 1$\frac{1}{4}$"	C	.15	.23
2 x 1"	C	.15	.23
2 x 1$\frac{1}{4}$"	C	.15	.23
2 x 1$\frac{1}{2}$"	C	.15	.23

MALLEABLE IRON FITTINGS

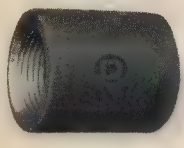


Plate S-4880
Right-hand coupling, plain

Size	Class	Price per Pound Black	Galv.
1/8"	A	$0.46	$0.58
1/4"	B	.20	.28
3/8"	B	.20	.28
1/2"	B	.20	.28
3/4"	B	.20	.28
1"	C	.13	.20
1 1/4"	C	.13	.20
1 1/2"	C	.13	.20
2"	C	.13	.20

Plate S-4884
Right and left coupling, plain

Size	Class	Price per Pound Black	Galv.
1/4"	B	$0.20	$0.28
3/8"	B	.20	.28
1/2"	B	.20	.28
3/4"	B	.20	.28
1"	C	.13	.20
1 1/4"	C	.13	.20
1 1/2"	C	.13	.20
2"	C	.13	.20

Plate S-4886
Cap, plain

Size	Class	Price per Pound Black	Galv.
1/8"	A	$0.46	$0.58
1/4"	B	.20	.28
3/8"	B	.20	.28
1/2"	B	.20	.28
3/4"	B	.20	.28
1"	B	.20	.28
1 1/4"	C	.13	.20
1 1/2"	C	.13	.20
2"	C	.13	.20

Plate S-4888
Cap, with band

Size	Class	Price per Pound Black	Galv.
1 1/4"	C	$0.13	$0.20
1 1/2"	C	.13	.20
2"	C	.13	.20
2 1/2"	C	.13	.20
3"	C	.13	.20
3 1/2"	C	.13	.20
4"	C	.13	.20
4 1/2"	C	.13	.20
5"	C	.13	.20
6"	C	.13	.20

MALLEABLE IRON FITTINGS

Plate S-4890
Lock nut

Size	Class	Price per Pound Black	Galv.
⅛″	A	$0.46	$0.58
¼″	B	.20	.28
⅜″	B	.20	.28
½″	B	.20	.28
¾″	B	.20	.28
1″	B	.20	.28
1¼″	B	.20	.28
1½″	C	.13	.20
2″	C	.13	.20
2½″	C	.13	.20
3″	C	.13	.20
3½″	C	.13	.20
4″	C	.13	.20

Plate S-4894
Extension piece, plain

Size	Class	Price per Pound Black	Galv.
⅜″	B	$0.23	$0.33
½″	B	.23	.33
¾″	B	.23	.33
1″	B	.23	.33
1¼″	B	.23	.33
1½″	B	.23	.33
2″	B	.23	.33

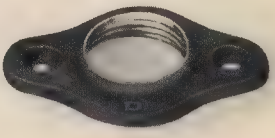


Plate S-4892
Waste nut

Size	Class	Price per Pound Black	Galv.
¼″	B	$0.23	$0.33
⅜″	B	.23	.33
½″	B	.23	.33
¾″	B	.23	.33
1″	B	.23	.33
1¼″	B	.23	.33
1½″	B	.23	.33
2″	B	.23	.33

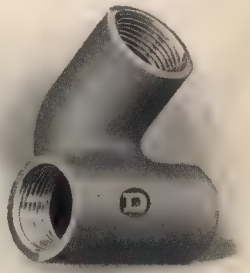


Plate S-4898
Hajoca malleable iron tray fitting

Sizes, inches	½	¾
Galvanized, each	$0.20	$0.30

This convenient and practical fitting permits the running of parallel lines of supply pipe, hot and cold, to the tray faucets. By placing the offsets alternately above and below the centre, alignment of the faucets is secured.

MALLEABLE IRON FITTINGS

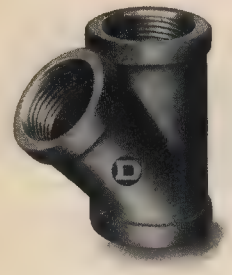


Plate S–4900
45° Y with band

Size	Class	Price per Pound Black	Galv.
½″	B	$0.20	$0.28
¾″	B	.20	.28
1″	B	.20	.28
1¼″	B	.20	.28
1½″	B	.20	.28
2″	B	.20	.28
2½″	B	.20	.28
3″	B	.20	.28
4″	B	.20	.28

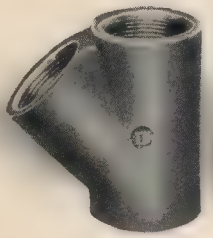


Plate S–4902
45° Y, plain

Size	Class	Price per Pound Black	Galv.
2 x 1½ x 1½″	B	$0.23	$0.33
2 x 1½ x 2″	B	.23	.33
2 x 1½″	B	.23	.33
2″	B	.23	.33

Note.—In describing reducing Y's, the size of the run is first given, beginning at the bottom, and then the size of the branch.

Plate S–4910

Malleable iron union, lipped for washer

Sizes, inches	⅛	¼	⅜	½	¾	1	1¼
Black, each	$0.18	$0.18	$0.20	$0.22	$0.27	$0.33	$0.46
Galvanized, each	.27	.27	.30	.33	.40	.50	.70

Sizes, inches	1½	2	2½	3	3½	4
Black, each	$0.58	$0.75	$1.55	$2.10	$3.65	$4.35
Galvanized, each	.90	1.15	2.35	3.15	5.50	6.50

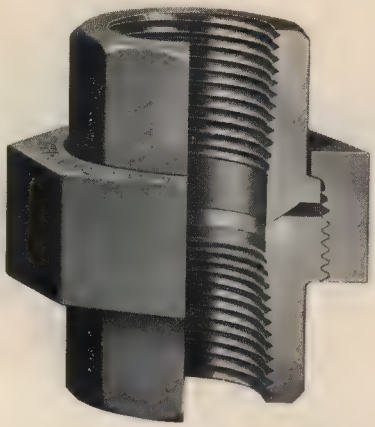


Plate S–4920

Hajoca bronze seat union

Both threaded ends are malleable iron, no brass end to stretch or expand unequally. There is ample play between the nut and swivel end to make connections easy even when the pipes are not in line. The joint cannot corrode or rust; the union is easy to disconnect no matter how long it has been in service. Suitable for all pressures up to 250 pounds. Every union tested by air under water.

Size, inches	⅛	¼	⅜	½	¾	1
Plain, each	$0.30	$0.30	$0.40	$0.50	$0.60	$0.80
Galvanized, each	.45	.45	.60	.75	.90	1.20

Size, inches	1¼	1½	2	2½	3
Plain, each	$1.20	$1.60	$2.00	$3.20	$4.80
Galvanized, each	1.80	2.40	3.00	4.80	7.20

The Bronze Seat

Its mechanical construction is seen above. The bronze seat is ball shaped on both face and back joints, keyed in so as to become a *permanent* and integral part of the union. It cannot work loose or be forced out of position through expansion or violent vibration. Expansion automatically makes both face and back joints tighter. Its ability to stand the give and take of violent vibration such as may be experienced on railroad and power work indicates service merits not found in angle or wedge-shaped seats.

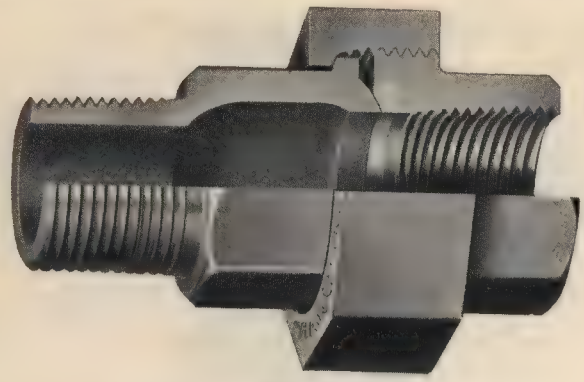


Plate S–4930
Hajoca union, inside and outside thread
The practical fitting for close work

This fitting can often be substituted with practical advantage for the all inside thread union and nipple. This saves time and one joint and is especially desirable when a shorter connection is required.

It saves pipefitter's time and keeps down the liability of leaks.

It eliminates close nipples, always difficult to make tight.

Both ends and nuts are octagonal—convenient to connect or disconnect with any ordinary wrench.

The bronze to iron seat cannot corrode.

Size, inches..	¼	⅜	½	¾	1	1¼	1½	2	2½
Plain, each...	$0.41	$0.44	$0.54	$0.65	$0.83	$1.30	$1.70	$2.20	$3.30
Galv., each..	.44	.49	.61	.76	.99	1.60	2.10	2.70	4.30

No Corrosion, No Gasket

The **Hajoca** bronze to iron joint cannot corrode, needs no gasket packing. The union nut is graphite treated and can be connected, disconnected, and reconnected with ease.

Threading

Before tapping, the union is reamed; the threads are then cut clean. Engineers have always found our threads uniform and without jagged edges. **Hajoca** Unions have Briggs' Standard Taper Threads chamfered, insuring a tight, strong connection throughout the length of the threads.

Octagonal

Both ends and nut are octagonal. Any ordinary wrench may be used in connecting up.

Working Pressures and Where Used

Hajoca Unions are recommended for any working pressures up to and including 250 pounds steam, air or water. They have given excellent service on Locomotives (steam, air, and water lines), Electric Railways, Signal Work, Marine Engineering, Collieries, Rolling Mills, Power Plants, Industrial Works and other places.

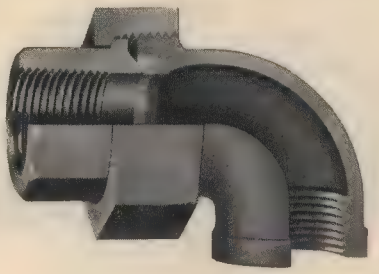


Plate S–4932
Hajoca union elbow, inside thread

In connections requiring an ell and union near it the **Hajoca** Union Elbow makes the use of a nipple and separate union unnecessary.

Size, inches..	¼	⅜	½	¾	1	1¼	1½	2	2½
Plain, each...	$0.67	$0.72	$0.90	$1.00	$1.30	$1.90	$2.30	$3.50	$5.40
Galv., each..	.72	.78	.99	1.20	1.50	2.20	2.80	4.20	6.60

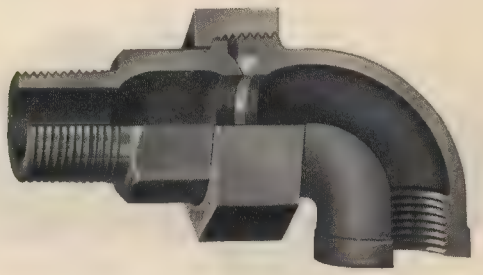


Plate S–4933
Hajoca union elbow, outside and inside thread

This lessens the number of joints and the liability of leaks and is in keeping with the best engineering practice.

The octagonal nut is graphite treated and can always be instantly disconnected with an ordinary wrench.

Size, inches..	¼	⅜	½	¾	1	1¼	1½	2	2½
Plain, each..	$0.71	$0.77	$0.96	$1.10	$1.50	$2.10	$2.50	$3.80	$6.00
Galv., each..	.76	.83	1.10	1.30	1.70	2.40	3.00	4.50	7.30

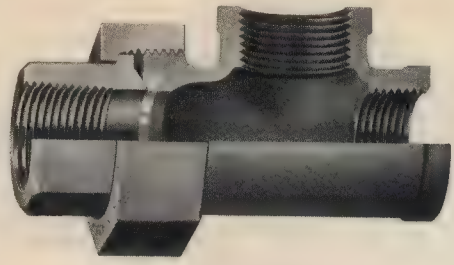


Plate S–4936

Hajoca union tee with union, inside thread

They are recommended for use wherever a union is required near a tee. They are time and labor savers, keeping down the number of joints and reducing the liabilities of leaks.

Sizes, inches.	¼	⅜	½	¾	1	1¼	1½	2	2½
Plain, each..	$0.73	$0.80	$0.99	$1.20	$1.50	$2.10	$2.60	$3.90	$6.20
Galv., each..	.79	.87	1.10	1.30	1.80	2.50	3.10	4.70	7.70

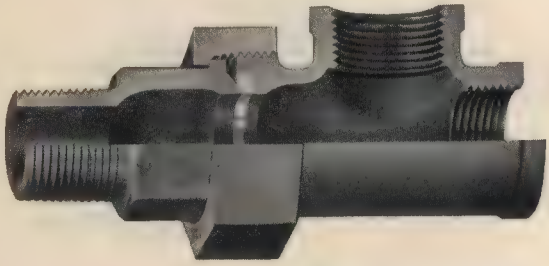


Plate S–4937

Hajoca union tee with union, outside thread

The ground ball joint eliminates the need of a gasket, and the ample play between the nut and swivel insures an easy connection even when the two pipes are not exactly in line.

Sizes, inches.	¼	⅜	½	¾	1	1¼	1½	2	2½
Plain, each..	$0.77	$0.84	$1.10	$1.30	$1.60	$2.30	$2.80	$4.20	$6.80
Galv., each..	.83	.92	1.20	1.40	1.90	2.70	3.30	5.00	8.40

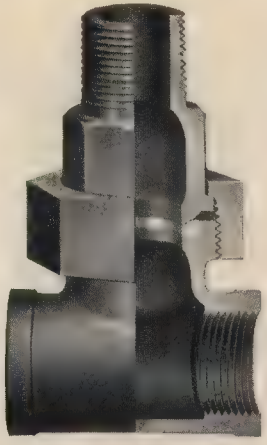


Plate S–4939
Hajoca union tee with union, outside thread

The bronze to iron seat cannot corrode. The octagonal nut and swivel end can be easily connected and tightened with any ordinary wrench.

All the merits of the **Hajoca** Union will be found in these special fittings.

Sizes, inches.	¼	⅜	½	¾	1	1¼	1½	2	2½
Plain, each..	$0.77	$0.84	$1.10	$1.30	$1.60	$2.30	$2.80	$4.20	$6.80
Galv., each..	.83	.92	1.20	1.40	1.90	2.70	3.30	5.00	8.40

Strength from Actual Tests

How well the **Hajoca** Union will carry its load the following tests show. The various sizes withstood internal water pressures as follows:

¼″...3000 lbs.	¾″..2000 lbs.	1½″..2000 lbs.	2½″..2000 lbs.
⅜″...3000 lbs.	1″...2000 lbs.	2″...2000 lbs.	3″...1500 lbs.
½″...3000 lbs.	1¼″..2000 lbs.		

The various sizes have tensile strengths as follows:

¼″...9,200 lbs.	½″..12,530 lbs.	1″..20,620 lbs.	1½″ 30,830 lbs.
⅜″...9,580 lbs.	¾″..17,730 lbs.	1¼″ 25,270 lbs.	2″..41,450 lbs.

The various sizes while holding an internal pressure of 200 pounds per square inch withstood the following tension:

¼″...2840 lbs.	½″...4500 lbs.	1″...4400 lbs.	1½″..5600 lbs.
⅜″...2950 lbs.	¾″...5200 lbs.	1¼″..5680 lbs.	2″...8700 lbs.

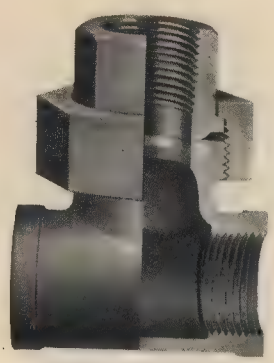


Plate S-4940

Hajoca union tee with union, inside thread

Every pipe joint saved in a line eliminates the possibilities of leaks and trouble later on. These **Hajoca** Special Fittings have proved of practical worth to engineers in perfecting piping arrangements and cutting down installation costs.

Sizes, inches..	¼	⅜	½	¾	1	1¼	1½	2	2½
Plain, each...	$0.73	$0.80	$0.99	$1.20	$1.50	$2.10	$2.60	$3.90	$6.20
Galv., each..	.79	.87	1.10	1.30	1.80	2.50	3.10	4.70	7.70

Plate S-4944

Three-part flange union

Sizes, inches....	1	1¼	1½	2	2½	3	3½	4	5	6
Palin, each.....	$0.80	$1.20	$1.60	$2.00	$3.20	$4.80	$6.00	$7.50	$10.00	$12.50
Galvanized, each.	1.10	1.60	2.15	2.70	4.30	6.50	8.10	10.15	13.50	16.90

Plate S–4950

Plate S–4952

Hajoca brass ground joint boiler couplings for iron pipe.

Size of coupling, inches	¾	¾
Size of spud, inches	¾	1
Plate S–4950, bent, each	$1.50	$1.50
Plate S–4952, straight, each	1.30	1.30
For spud tapped for tube, add	.05	.05

A set of boiler couplings consists of one straight and three bent couplings, with one spud in each set tapped for boiler tube; couplings with 1-inch spuds will always be furnished unless otherwise specified.

Plate S–4954
Union Elbow Short Pattern

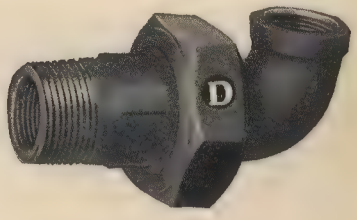


Plate S–4956
Union Elbow Long Pattern

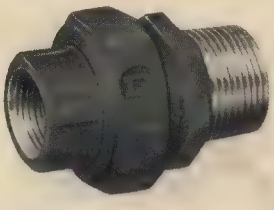


Plate S–4958
Union Socket Short Pattern

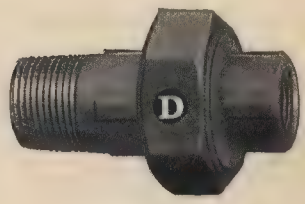


Plate S–4960
Union Socket Long Pattern

Hajoca galvanized iron boiler couplings.

Outside thread and tapping, inches	¾ x ½	¾ x ½	1 x ½	1 x ½	1 x ¾
Inside thread end, inches	½	¾	½	¾	¾
Plate S–4954, Union elbow, short, each	—	$0.75	$0.60	$0.75	$0.75
Plate S–4956, Union elbow, long, each	$0.60	.75	.60	.75	.75
Plate S–4958, Union socket, short, each	—	—	.60	.75	.75
Plate S–4960, Union socket, long, each	.60	.75	.60	.75	.75

MALLEABLE IRON RAILING FITTINGS

Plate S–5000
Elbow

Plate S–5002
Side outlet elbow

Plate S–5004
T

Plate S–5008
Side outlet T

Plate S–5010
Cross

Plate S–5012
Side outlet cross

Sizes, inches	½	¾	1	1¼	1½	2
Plate S–5000. Elbow:						
Black, each	$0.10	$0.15	$0.20	$0.35	$0.45	$0.72
Galvanized, each	.20	.30	.40	.70	.90	1.44
Elbow, reducing:						
Black, each	—	—	.25	.44	.56	.90
Galvanized, each	—	—	.50	.88	1.12	1.80
Plate S–5002. Side outlet elbow:						
Black, each	.12	.18	.25	.40	.50	.80
Galvanized, each	.24	.36	.50	.80	1.00	1.60
Side outlet elbow, reducing:						
Black, each	—	—	.31	.50	.62	1.00
Galvanized, each	—	—	.62	1.00	1.24	2.00
Plate S–5004. T:						
Black, each	.12	.18	.25	.40	.50	.75
Galvanized, each	.24	.36	.50	.80	1.00	1.50
T, reducing:						
Black, each	—	—	.31	.50	.62	1.00
Galvanized, each	—	—	.62	1.00	1.24	2.00
Plate S–5008. Side outlet T:						
Black, each	.15	.22	.35	.45	.55	.90
Galvanized, each	.30	.44	.70	.90	1.10	1.80
Side outlet T, reducing:						
Black, each	—	—	.44	.56	.70	1.12
Galvanized, each	—	—	.88	1.12	1.40	2.24
Plate S–5010. Cross:						
Black, each	.15	.22	.35	.45	.58	1.00
Galvanized, each	.30	.44	.70	.90	1.16	2.00
Cross, reducing:						
Black, each	—	—	.44	.56	.75	1.25
Galvanized, each	—	—	.88	1.12	1.50	2.50
Plate S–5012. Side outlet cross:						
Black, each	.18	.27	.40	.50	.65	1.35
Galvanized, each	.36	.54	.80	1.00	1.30	2.70

The above fittings can also be furnished in polished brass; prices on application.

MALLEABLE IRON RAILING FITTINGS

Plate S–5014
Acorn to drive

Plate S–5016
Acorn to screw

Plate S–5018
Hinge socket

Plate S–5020
Hinge plate and socket

Plate S—5022
Hinge for pipe gate

Plate S–5024
Hinge for pipe gate

Plate S–5026
Railing flange with lugs

Plate S–5028
Round railing flange

Sizes, inches	⅛	¼	½	¾	1	1¼	1½	2
Plate S–5014. Acorn to drive:								
Black, each	—	—			$0.20	$0.25	$0.35	$0.90
Galvanized, each	—	—			.40	.50	.70	1.80
Plate S–5016. Acorn to screw. Outside thread as shown, or inside thread:								
Black, each	$0.16	$0.18			.20	.25	.35	.90
Galvanized, each	.32	.36			.40	.50	.70	1.80
Plate S–5018. Hinge socket:								
Black, each	—	.15			.15	—	—	—
Galvanized, each	—	.30			.30	—	—	—
Plate S–5020. Hinge plate and socket:								
Black, each	—	.33			.33	—	—	—
Galvanized, each	—	.66			.66	—	—	—
Plate S–5022. Hinge for pipe gate:								
Black, each	.35	.40			.45	.55	.80	1.00
Galvanized, each	.70	.80			.90	1.10	1.60	2.00
Plate S–5024. Hinge for pipe gate:								
Black, each	—	—			.50	.70	1.00	1.25
Galvanized, each	—	—			1.00	1.40	2.00	2.50

Sizes, inches	⅜	½	¾	1	1¼	1½	2
Plate S–5026. Railing flange with lugs:							
Black, each	.10	.10	.12	.15	.20	.28	.30
Galvanized, each	.20	.20	.24	.30	.40	.56	.60
Plate S–5028. Round railing flange:							
Black, each	.13	.14	.18	.20	.25	.31	.45
Galvanized, each	.26	.28	.36	.40	.50	.62	.90

MALLEABLE IRON RAILING FITTINGS

Plate S–5030
Hand rail elbow, adjustable

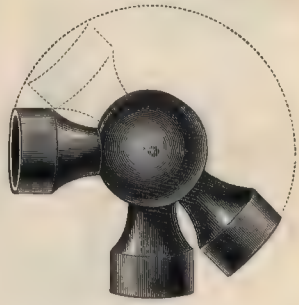


Plate S–5032
Stair landing T, adjustable

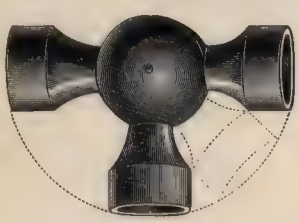


Plate S–5034
Stair hand rail T, adjustable

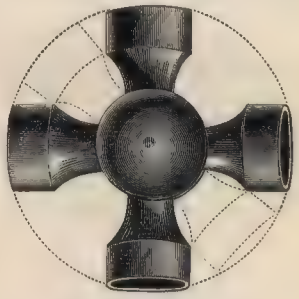


Plate S–5036
Stair hand rail cross, adjustable

Sizes, inches	1	1¼	1½	2
Plate S–5030. Hand rail elbow:				
Black, each	$1.10	$1.25	$1.70	$2.25
Galvanized, each	2.20	2.50	3.40	4.50
Plate S–5032. Stair landing T:				
Black, each	1.30	1.50	2.00	2.50
Galvanized, each	2.60	3.00	4.00	5.00
Plate S–5034. Stair hand rail T:				
Black, each	1.30	1.50	2.00	2.50
Galvanized, each	2.60	3.00	4.00	5.00
Plate S–5036. Stair hand rail cross:				
Black, each	1.50	1.75	2.35	2.75
Galvanized, each	3.00	3.50	4.70	5.50

MALLEABLE IRON RAILING FITTINGS

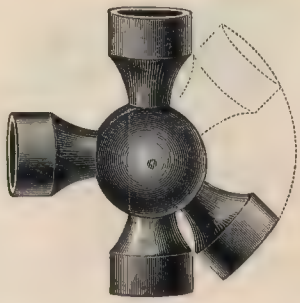


Plate S–5038
Stair landing cross, adjustable

Sizes, inches	1	1¼	1½	2
Black, each	$1.50	$1.85	$2.50	$2.75
Galvanized, each	3.00	3.70	5.00	5.50

Plate S–5040
Single Foot-Rail Bracket

Plate S–5042
Double Foot-Rail Bracket.
Screws to Floor or Counter

Size, inches	½	¾	1	1¼	1½	2
Plate S–5040. Single foot rail bracket:						
Black, each	$0.60	$0.70	$0.90	$1.00	$1.20	$1.40
Galvanized, each	1.20	1.40	1.80	2.00	2.40	2.80
Plate S–5042. Double foot rail bracket:						
Black, each	.70	.80	1.00	1.10	1.30	1.50
Galvanized, each	1.40	1.60	2.00	2.20	2.60	3.00

CAST IRON FITTINGS FOR WROUGHT PIPE

Plate S-5100
Elbow

Plate S-5101
Reducing Elbow

Plate S-5102
Side Outlet Elbow

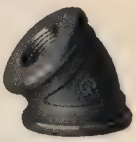


Plate S-5103
45° Elbow

Sizes, inches	Plate S-5100 Straight	Plate S-5100 Right and left	Plate S-5101 Reducing	Plate S-5102 Side outlet	Plate S-5103 45° Elbow
¼, each	$0.05	$0.06	—	—	$0.06
⅜, each	.05	.06	$0.06	—	.06
½, each	.06	.07	.07	$0.18	.70
¾, each	.08	.09	.09	.24	.10
1, each	.10½	.12	.12	.30	.12
1¼, each	.16	.18	.18	.48	.19
1½, each	.20	.23	.23	.60	.24
2, each	.28	.32	.32	.84	.34
2½, each	.50	.60	.60	1.50	.60
3, each	.75	.85	.85	2.25	.90
3½, each	1.05	—	1.20	3.15	1.25
4, each	1.20	—	1.40	3.60	1.45
4½, each	1.75	—	2.00	5.25	2.20
5, each	2.00	—	2.30	6.00	2.50
6, each	2.75	—	3.15	8.25	3.45
7, each	4.70	—	5.40	—	5.90
8, each	6.75	—	7.75	—	8.50
9, each	9.00	—	10.50	—	11.25
10, each	13.50	—	15.50	—	17.00
12, each	20.00	—	23.00	—	25.00

For list prices of galvanized, double above lists.

For list of standard sizes of cast fittings, see pages 99 to 101.

Our cast iron fittings are of uniform and superior quality. The threads are tapped straight to standard gauge, and are not battered or marred and the pipe will enter easily. The castings are of sufficient weight and of even thickness; they are of excellent design and are clean and smooth inside and out.

CAST IRON FITTINGS FOR WROUGHT PIPE

Plate S–5105
T

Plate S–5108
T with side outlet

Plate S–5110
Cross

Size inches	Plate S–5105 Straight T	Plate S–5105 Reducing T	Plate S–5108 Side outlet T	Plate S–5110 Straight Cross	Plate S–5110 Reducing Cross
¼, each	$0.08	—	—	—	—
⅜, each	.08	$0.09	—	$0.15	—
½, each	.09	.10	$0.27	.16	$0.18
¾, each	.12	.14	.36	.22	.25
1, each	.15	.17	.45	.27	.30
1¼, each	.23	.27	.70	.42	.46
1½, each	.29	.33	.90	.53	.60
2, each	.41	.47	1.25	.75	.83
2½, each	.73	.83	2.25	1.30	1.45
3, each	1.10	1.25	3.25	2.00	2.20
3½, each	1.50	1.75	4.50	2.70	3.00
4, each	1.75	2.00	5.25	3.15	3.50
4½, each	2.55	2.95	7.65	4.60	5.10
5, each	3.00	3.50	9.00	5.50	6.00
6, each	4.00	4.60	12.00	7.25	8.00
7, each	6.80	7.80	—	12.25	13.50
8, each	9.75	11.25	—	17.50	19.25
9, each	13.00	15.00	—	23.50	26.00
10, each	19.50	22.50	—	35.00	38.50
12, each	29.00	33.50	—	52.50	58.00

For list prices of galvanized, double above lists.

For list of standard sizes of cast fittings, see pages 99 to 101.

Cast fittings are used extensively for steam pipe lines, also for hot water and steam heating installations. They are always furnished black unless galvanized are specified.

CAST IRON FITTINGS FOR WROUGHT PIPE

Plate S–5112
Y

Plate S–5115
Close return bend

Plate S–5118
Open return bend

Plate S-5112

Sizes, inches	Straight Y	Reducing Y
½, each	$0.20	$0.23
¾, each	.28	.33
1, each	.34	.40
1¼, each	.54	.62
1½, each	.66	.76
2, each	.94	1.08
2½, each	1.66	1.90
3, each	2.50	2.90
3½, each	3.50	4.00
4, each	4.00	4.60
4½, each	5.90	6.80
5, each	7.00	8.00
6, each	9.20	10.60
7, each	15.60	18.00
8, each	22.50	26.00
9, each	33.75	39.00
10, each	45.00	51.75
12, each	67.00	77.00

Plate S-5115

Close return bend

Sizes, inches	C. to C., inches	Right hand	Right and left
½, each	1¼	$0.18	$0.21
¾, each	1½	.20	.23
1, each	1¾	.22	.26
1¼, each	2¼	.28	.33
1½, each	2½	.40	.46
2, each	3	.57	.66

Plate S-5118

Open return bend

¾, each	2¼	$0.26	$0.30
1, each	2½	.30	.35
1¼, each	3	.40	.46
1½, each	3½	.55	.64
2, each	4½	.80	.92

Plate S–5115 can be furnished with pitched threads; Plates S–5115 and S–5118 can be furnished with back inlet.

For list prices of galvanized, double above lists.

For list of standard sizes of cast fittings, see pages 99 to 101.

CAST IRON FITTINGS FOR WROUGHT PIPE

List of Standard Sizes

NOTE.—Sizes not mentioned in the following list will be charged at a higher price than standard sizes.

Straight Sizes

Elbows and tees.... $\frac{1}{4}$ to 12 inch
Elbows, right and left $\frac{3}{8}$ to 3 inch
Elbows, 45°..... $\frac{3}{8}$ to 12 inch
Crosses..... $\frac{1}{2}$ to 12 inch
Y branches..... $\frac{1}{2}$ to 10 inch
Return bends, close pattern..... $\frac{1}{2}$ to 2 inch
Return bends, open pattern..... $\frac{3}{4}$ to $2\frac{1}{2}$ inch

Reducing Sizes

REDUCING ELBOWS

$\frac{3}{8} \times \frac{1}{4}$
$\frac{1}{2} \times \frac{3}{8}$
$\frac{1}{2} \times \frac{1}{4}$
$\frac{3}{4} \times \frac{1}{2}$
$\frac{3}{4} \times \frac{3}{8}$

1 x $\frac{3}{4}$
1 x $\frac{1}{2}$
1 x $\frac{3}{8}$
$1\frac{1}{4} \times 1$
$1\frac{1}{4} \times \frac{3}{4}$
$1\frac{1}{4} \times \frac{1}{2}$
$1\frac{1}{4} \times \frac{3}{8}$

$1\frac{1}{2} \times 1\frac{1}{4}$
$1\frac{1}{2} \times 1$
$1\frac{1}{2} \times \frac{3}{4}$
2 x $1\frac{1}{2}$
2 x $1\frac{1}{4}$
2 x 1
2 x $\frac{3}{4}$

$2\frac{1}{2} \times 2$
$2\frac{1}{2} \times 1\frac{1}{2}$
$2\frac{1}{2} \times 1\frac{1}{4}$
$2\frac{1}{2} \times 1$
3 x $2\frac{1}{2}$
3 x 2
3 x $1\frac{1}{2}$

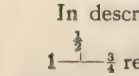
3 x $1\frac{1}{4}$
$3\frac{1}{2} \times 3$
$3\frac{1}{2} \times 2\frac{1}{2}$
$3\frac{1}{2} \times 2$
4 x $3\frac{1}{2}$
4 x 3

4 x $2\frac{1}{2}$
4 x 2
$4\frac{1}{2} \times 4$
5 x $4\frac{1}{2}$
5 x 4
5 x 3
5 x $2\frac{1}{2}$

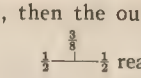
6 x 5
6 x 4
7 x 6
8 x 7
8 x 6
10 x 8

REDUCING TEES

In describing tees, the run is first named, then the outlet, thus:



reads 1 x $\frac{3}{4}$ x $\frac{1}{2}$



reads $\frac{1}{2}$ x $\frac{3}{8}$

$\frac{3}{8}$ x $\frac{1}{2}$
$\frac{3}{8}$ x $\frac{1}{4}$
$\frac{1}{2}$ x 1
$\frac{1}{2}$ x $\frac{3}{4}$
$\frac{1}{2}$ x $\frac{3}{8}$
$\frac{1}{2}$ x $\frac{1}{4}$
$\frac{3}{4}$ x $\frac{3}{8}$ x $\frac{1}{2}$
$\frac{3}{4}$ x $\frac{3}{8}$ x $\frac{3}{8}$
$\frac{3}{4}$ x 2
$\frac{3}{4}$ x $1\frac{1}{2}$
$\frac{3}{4}$ x $1\frac{1}{4}$
$\frac{3}{4}$ x 1
$\frac{3}{4}$ x $\frac{1}{2}$
$\frac{3}{4}$ x $\frac{3}{8}$
$\frac{3}{4}$ x $\frac{1}{4}$
$\frac{3}{4}$ x $\frac{1}{2}$ x 1
$\frac{3}{4}$ x $\frac{1}{2}$ x $\frac{3}{4}$
$\frac{3}{4}$ x $\frac{3}{8}$ x $\frac{3}{4}$
$\frac{3}{4}$ x $\frac{1}{4}$ x $\frac{3}{4}$
1 x 2
1 x $1\frac{1}{2}$

1 x $1\frac{1}{4}$
1 x $\frac{3}{4}$
1 x $\frac{1}{2}$
1 x $\frac{3}{8}$
1 x $\frac{1}{4}$
1 x $\frac{3}{4}$ x 2
1 x $\frac{3}{4}$ x $1\frac{1}{2}$
1 x $\frac{3}{4}$ x $1\frac{1}{4}$
1 x $\frac{3}{4}$ x 1
1 x $\frac{3}{4}$ x $\frac{3}{4}$
1 x $\frac{3}{4}$ x $\frac{1}{2}$
1 x $\frac{1}{2}$ x 1
1 x $\frac{1}{2}$ x $\frac{3}{4}$
1 x $\frac{1}{2}$ x $\frac{1}{2}$
1 x $\frac{3}{8}$ x 1
1 x $\frac{1}{4}$ x 1
$1\frac{1}{4}$ x 2
$1\frac{1}{4}$ x $1\frac{1}{2}$
$1\frac{1}{4}$ x 1
$1\frac{1}{4}$ x $\frac{3}{4}$
$1\frac{1}{4}$ x $\frac{1}{2}$
$1\frac{1}{4}$ x $\frac{3}{8}$
$1\frac{1}{4}$ x $\frac{1}{4}$

$1\frac{1}{4}$ x 1 x 2
$1\frac{1}{4}$ x 1 x $1\frac{1}{2}$
$1\frac{1}{4}$ x 1 x $1\frac{1}{4}$
$1\frac{1}{4}$ x 1 x 1
$1\frac{1}{4}$ x 1 x $\frac{3}{4}$
$1\frac{1}{4}$ x 1 x $\frac{1}{2}$
$1\frac{1}{4}$ x $\frac{3}{4}$ x 2
$1\frac{1}{4}$ x $\frac{3}{4}$ x $1\frac{1}{2}$
$1\frac{1}{4}$ x $\frac{3}{4}$ x $1\frac{1}{4}$
$1\frac{1}{4}$ x $\frac{3}{4}$ x 1
$1\frac{1}{4}$ x $\frac{3}{4}$ x $\frac{3}{4}$
$1\frac{1}{4}$ x $\frac{1}{2}$ x $1\frac{1}{2}$
$1\frac{1}{4}$ x $\frac{1}{2}$ x $1\frac{1}{4}$
$1\frac{1}{4}$ x $\frac{1}{2}$ x $1\frac{1}{4}$
$1\frac{1}{4}$ x $\frac{1}{2}$ x 1
$1\frac{1}{2}$ x $2\frac{1}{2}$
$1\frac{1}{2}$ x 2
$1\frac{1}{2}$ x $1\frac{1}{2}$
$1\frac{1}{2}$ x 1
$1\frac{1}{2}$ x $\frac{3}{4}$
$1\frac{1}{2}$ x $\frac{1}{2}$
$1\frac{1}{2}$ x $1\frac{1}{4}$ x $2\frac{1}{2}$
$1\frac{1}{2}$ x 1 x $2\frac{1}{2}$

$1\frac{1}{2}$ x $1\frac{1}{4}$ x 2
$1\frac{1}{2}$ x $1\frac{1}{4}$ x $1\frac{1}{2}$
$1\frac{1}{2}$ x $1\frac{1}{4}$ x $1\frac{1}{4}$
$1\frac{1}{2}$ x $1\frac{1}{4}$ x 1
$1\frac{1}{2}$ x $1\frac{1}{4}$ x $\frac{3}{4}$
$1\frac{1}{2}$ x $1\frac{1}{4}$ x $\frac{1}{2}$
$1\frac{1}{2}$ x 1 x 2
$1\frac{1}{2}$ x 1 x $1\frac{1}{2}$
$1\frac{1}{2}$ x 1 x $1\frac{1}{4}$
$1\frac{1}{2}$ x 1 x 1
$1\frac{1}{2}$ x 1 x $\frac{3}{4}$
$1\frac{1}{2}$ x 1 x $\frac{1}{2}$
$1\frac{1}{2}$ x $\frac{3}{4}$ x 2
$1\frac{1}{2}$ x $\frac{3}{4}$ x $1\frac{1}{2}$
$1\frac{1}{2}$ x $\frac{3}{4}$ x $1\frac{1}{4}$
$1\frac{1}{2}$ x $\frac{3}{4}$ x 1
$1\frac{1}{2}$ x $\frac{3}{4}$ x $\frac{3}{4}$
$1\frac{1}{2}$ x $\frac{3}{4}$ x $\frac{1}{2}$
$1\frac{1}{2}$ x $\frac{1}{2}$ x $1\frac{1}{4}$
2 x 4
2 x 3
2 x $2\frac{1}{2}$

2 x $1\frac{1}{2}$
2 x $1\frac{1}{4}$
2 x 1
2 x $\frac{3}{4}$
2 x $\frac{1}{2}$
2 x $\frac{1}{4}$
2 x $1\frac{1}{2}$ x $2\frac{1}{2}$
2 x $1\frac{1}{2}$ x 2
2 x $1\frac{1}{2}$ x $1\frac{1}{2}$
2 x $1\frac{1}{2}$ x $1\frac{1}{4}$
2 x $1\frac{1}{2}$ x 1
2 x $1\frac{1}{2}$ x $\frac{3}{4}$
2 x $1\frac{1}{2}$ x $\frac{1}{2}$
2 x $1\frac{1}{4}$ x $2\frac{1}{2}$
2 x $1\frac{1}{4}$ x 2
2 x $1\frac{1}{4}$ x $1\frac{1}{2}$
2 x $1\frac{1}{4}$ x $1\frac{1}{4}$
2 x $1\frac{1}{4}$ x 1
2 x $1\frac{1}{4}$ x $\frac{3}{4}$
2 x 1 x $2\frac{1}{2}$
2 x 1 x 2
2 x 1 x $1\frac{1}{2}$
2 x 1 x $1\frac{1}{4}$
2 x 1 x 1

CAST IRON FITTINGS FOR WROUGHT PIPE

Standard Reducing Sizes

Reducing Tees—Continued

2 x 1 x 3/4
2 x 3/4 x 2 1/2
2 x 3/4 x 2
2 x 3/4 x 1 1/2
2 x 1/2 x 2
2 x 1/4 x 2
2 x 1/2 x 1 1/2

2 1/2 x 1 x 2
2 1/2 x 3/4 x 2 1/2
2 1/2 x 4
2 1/2 x 3
2 1/2 x 2
2 1/2 x 1 1/2
2 1/2 x 1 1/4
2 1/2 x 1
2 1/2 x 3/4
2 1/2 x 1/2
2 1/2 x 2 x 3
2 1/2 x 2 x 2 1/2
2 1/2 x 2 x 2
2 1/2 x 2 x 1 1/2
2 1/2 x 2 x 1 1/4
2 1/2 x 2 x 1
2 1/2 x 2 x 3/4
2 1/2 x 2 x 1/2
2 1/2 x 1 1/2 x 3
2 1/2 x 1 1/2 x 2 1/2
2 1/2 x 1 1/2 x 2
2 1/2 x 1 1/2 x 1 1/2
2 1/2 x 1 1/2 x 1 1/4
2 1/2 x 1 1/2 x 1
2 1/2 x 1 1/4 x 2 1/2
2 1/2 x 1 1/4 x 2
2 1/2 x 1 1/4 x 1 1/2
2 1/2 x 1 x 2 1/2
2 1/2 x 1/2 x 2 1/2

3 x 4
3 x 3 1/2
3 x 2 1/2
3 x 2
3 x 1 1/2
3 x 1 1/4
3 x 1
3 x 3/4
3 x 1/2
3 x 2 1/2 x 3
3 x 2 1/2 x 2 1/2
3 x 2 1/2 x 2
3 x 2 1/2 x 1

3 x 2 1/2 x 1 1/2
3 x 2 1/2 x 1 1/4
3 x 2 1/2 x 1
3 x 2 1/2 x 3/4
3 x 2 1/2 x 3 1/2
3 x 2 1/2 x 3
3 x 2 1/2 x 2 1/2
3 x 2 1/2 x 2
3 x 2 1/2 x 1 1/2 x 3 1/2
3 x 2 1/2 x 1 1/4 x 3 1/2
3 x 2 1/2 x 1 x 3 1/2

3 1/2 x 4
3 1/2 x 3
3 1/2 x 2 1/2
3 1/2 x 2
3 1/2 x 1 1/2
3 1/2 x 1 1/4
3 1/2 x 1
3 1/2 x 3/4
3 1/2 x 3 x 3 1/2
3 1/2 x 3 x 3
3 1/2 x 3 x 2 1/2
3 1/2 x 3 x 2
3 1/2 x 3 x 1 1/2
3 1/2 x 3 x 1 1/4
3 1/2 x 3 x 1
3 1/2 x 3 x 3/4
3 1/2 x 2 1/2 x 3 1/2
3 1/2 x 2 1/2 x 3
3 1/2 x 2 1/2 x 2 1/2
3 1/2 x 2 1/2 x 2
3 1/2 x 2 x 3 1/2
3 1/2 x 1 1/2 x 3 1/2
3 1/2 x 1 1/4 x 3 1/2
3 1/2 x 1 x 3 1/2

4 x 6
4 x 5
4 x 3 1/2
4 x 3
4 x 2 1/2
4 x 2
4 x 1 1/2
4 x 1 1/4
4 x 1

4 x 3/4
4 x 3 1/2 x 4
4 x 3 1/2 x 3 1/2
4 x 3 1/2 x 3
4 x 3 1/2 x 2 1/2
4 x 3 1/2 x 2
4 x 3 1/2 x 1 1/2
4 x 3 1/2 x 1 1/4
4 x 3 1/2 x 1
4 x 3 x 4
4 x 3 x 3 1/2
4 x 3 x 3
4 x 3 x 2 1/2
4 x 3 x 2
4 x 3 x 1 1/2
4 x 3 x 1 1/4
4 x 3 x 1
4 x 3 x 3/4
4 x 2 1/2 x 4
4 x 2 1/2 x 3 1/2
4 x 2 1/2 x 3
4 x 2 1/2 x 2 1/2
4 x 2 1/2 x 2
4 x 2 1/2 x 1 1/2
4 x 2 1/2 x 1 1/4
4 x 2 1/2 x 1
4 x 2 x 4
4 x 2 x 3
4 x 2 x 2 1/2
4 x 2 x 2
4 x 1 1/2 x 4
4 x 1 1/4 x 4
4 x 1 x 4

4 1/2 x 4
4 1/2 x 3 1/2
4 1/2 x 3
4 1/2 x 2 1/2
4 1/2 x 2
4 1/2 x 1 1/2
4 1/2 x 1 1/4
4 1/2 x 1
4 1/2 x 4 x 3
4 1/2 x 4 x 2

5 x 7
5 x 6
5 x 4 1/2

5 x 4
5 x 3 1/2
5 x 3
5 x 2 1/2
5 x 2
5 x 1 1/2
5 x 1 1/4
5 x 1
5 x 3/4
5 x 4 x 5
5 x 4 x 4 1/2
5 x 4 x 4
5 x 4 x 3 1/2
5 x 4 x 3
5 x 4 x 2 1/2
5 x 4 x 2
5 x 4 x 1 1/2
5 x 3 1/2 x 6
5 x 3 1/2 x 3 1/2
5 x 3 x 5
5 x 3 x 4 1/2
5 x 3 x 4
5 x 3 x 3 1/2
5 x 3 x 3
5 x 3 x 2 1/2
5 x 3 x 2
5 x 2 1/2 x 5
5 x 2 1/2 x 4
5 x 2 1/2 x 3
5 x 2 x 5
5 x 1 1/4 x 5

6 x 8
6 x 7
6 x 5
6 x 4 1/2
6 x 4
6 x 3 1/2
6 x 3
6 x 2 1/2
6 x 2
6 x 1 1/2
6 x 1 1/4
6 x 1
6 x 5 x 6
6 x 5 x 5
6 x 5 x 4
6 x 5 x 3 1/2
6 x 5 x 3

6 x 5 x 2 1/2
6 x 5 x 1 1/2
6 x 4 x 6
6 x 4 x 4
6 x 4 x 3
6 x 3 x 6
6 x 3 x 4
6 x 2 1/2 x 6
6 x 2 x 6

7 x 6
7 x 5
7 x 4
7 x 3 1/2
7 x 3
7 x 2 1/2
7 x 2
7 x 6 x 7
7 x 6 x 6
7 x 6 x 5
7 x 6 x 4
7 x 6 x 3
7 x 5 x 6
7 x 5 x 5

8 x 10
8 x 7
8 x 6
8 x 5
8 x 4
8 x 3 1/2
8 x 3
8 x 2 1/2
8 x 2
8 x 1 1/2
8 x 1 1/4
8 x 7 x 8
8 x 7 x 6
8 x 7 x 5
8 x 7 x 4
8 x 7 x 3
8 x 6 x 8
8 x 6 x 7
8 x 6 x 6
8 x 5 x 8
8 x 5 x 5
8 x 4 x 8
8 x 4 x 6

9 x 7

CAST IRON FITTINGS FOR WROUGHT PIPE

Standard Reducing Sizes

Reducing Tees—Continued

9 x 6
9 x 5
10 x 8

10 x 6
10 x 5
10 x 4

10 x 3
10 x 8 x 8
10 x 2

12 x 10
12 x 8
12 x 6

12 x 5
12 x 4
12 x 8 x 10
12 x 8 x 8

Reducing Crosses

Reducing crosses are described as follows:

1
1½—┼—1¼ reads 1½ x 1¼ x 1 x 1;
1

½
1—┼—1 reads 1 x ½.
½

½ x 1¼ x 1¼ x 1¼
¾ x ½
¾ x ½ x ½ x ½

1 x ¾
1 x ½
1 x ¾ x ¾ x ¾

1¼ x 1
1¼ x ¾
1¼ x ½

1¼ x 1 x 1 x 1
1¼ x 1 x ¾ x ¾
1¼ x ¾ x ¾ x ¾

1½ x 1¼
1½ x 1
1½ x ¾
1½ x ½
1½ x 1¼ x 1 x 1
1½ x 1¼ x ¾ x ¾
1½ x 1 x 1 x ¾
1½ x 1 x ¾ x ¾

2 x 1½
2 x 1¼
2 x 1
2 x ¾
2 x ½
2 x 2 x 1¼ x 1
2 x 2 x 1 x ¾
2 x 1½ x 1½ x 1½
2 x 1½ x 1¼ x 1¼
2 x 1½ x 1¼ x 1
2 x 1½ x 1 x 1
2 x 1½ x 1 x ¾
2 x 1½ x ¾ x ¾
2 x 1½ x 1 x ¾
2 x 1 x 1½ x 1
2½ x 2
2½ x 1½
2½ x 1¼
2½ x 1

2½ x ¾
2½ x 2½ x 1½ x 1¼
2½ x 2½ x 1½ x 1
2½ x 2½ x 1¼ x 1
2½ x 2½ x 1¼ x ¾
2½ x 2½ x 1 x ¾
2½ x 2 x 2 x 1½
2½ x 2 x 2 x 1¼
2½ x 2 x 2 x 1
2½ x 2 x 1½ x 1½
2½ x 2 x 1½ x 1¼
2½ x 2 x 1½ x 1
2½ x 2 x 1½ x ¾
2½ x 2 x 1¼ x 1¼
2½ x 2 x 1¼ x 1
2½ x 2 x 1 x 1
2½ x 2 x 1 x ¾
2½ x 2 x ¾ x ¾
2½ x 1½ x 2 x 1½
2½ x 1½ x 1½ x 1
2½ x 1½ x 1¼ x 1¼

3 x 2½
3 x 2
3 x 1½
3 x 1¼
3 x 1
3 x ¾
3 x 3 x 2 x 1½
3 x 3 x 2 x 1
3 x 3 x 1½ x 1¼
3 x 3 x 1½ x 1
3 x 3 x 1½ x ¾
3 x 3 x 1¼ x 1
3 x 3 x 1¼ x ¾
3 x 2½ x 2½ x 2
3 x 2½ x 2½ x 1½
3 x 2½ x 2 x 2
3 x 2½ x 2 x 1½
3 x 2½ x 2 x 1¼
3 x 2½ x 2 x 1

3 x 2½ x 2 x ¾
3 x 2½ x 1½ x 1½
3 x 2½ x 1½ x 1¼
3 x 2½ x 1½ x 1
3 x 2½ x 1¼ x 1¼
3 x 2½ x 1¼ x 1
3 x 2 x 2 x 2

3½ x 3
3½ x 2½
3½ x 2
3½ x 1½
3½ x 1¼
3½ x 1
3½ x 3½ x 2 x 1½
3½ x 3½ x 1½ x 1¼
3½ x 3 x 2½ x 2
3½ x 3 x 2 x 2
3½ x 3 x 2 x 1½
3½ x 3 x 2 x 1¼
3½ x 3 x 1½ x 1½
3½ x 3 x 1½ x 1¼
3½ x 3 x 1½ x 1
3½ x 3 x 1¼ x 1¼
3½ x 3 x 1¼ x 1
3½ x 3 x 1 x 1

4 x 3½
4 x 3
4 x 2½
4 x 2
4 x 1½
4 x 1¼
4 x 1
4 x 4 x 1½ x 1¼
4 x 4 x 1½ x 1
4 x 4 x 1¼ x 1
4 x 3½ x 2½ x 2
4 x 3½ x 2 x 2
4 x 3½ x 2 x 1½
4 x 3½ x 2 x 1¼

4 x 3½ x 1½ x 1½
4 x 3½ x 1½ x 1¼
4 x 3½ x 1¼ x 1¼
4 x 3½ x 1¼ x 1

5 x 4
5 x 3
5 x 2½
5 x 2
5 x 1½
5 x 1
5 x 5 x 2 x 1½
5 x 5 x 1½ x 1¼
5 x 4 x 2 x 2
5 x 4 x 2 x 1½
5 x 4 x 1½ x 1½
5 x 4 x 1¼ x 1¼
5 x 4 x 1¼ x 1
5 x 4 x 1 x 1

6 x 5
6 x 4
6 x 3
6 x 2½
6 x 2
6 x 1½
6 x 6 x 2 x 1½
6 x 5 x 2 x 2
6 x 5 x 2 x 1½
6 x 5 x 1½ x 1½

7 x 6
7 x 5

8 x 7
8 x 6
8 x 5
8 x 4

10 x 8
10 x 7

12 x 10
12 x 8

CAST IRON RECESSED DRAINAGE FITTINGS FOR WROUGHT PIPE

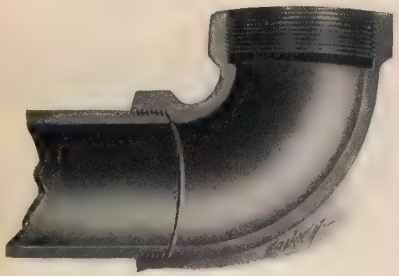


Plate S-5130

Sectional view of drainage fitting, showing pipe screwed up to the shoulder.

Hajoca drainage fittings are made with an interior shoulder against which the pipe screws flush and snug forming a full continuous passageway without pockets or any impeding obstruction. Each fitting is carefully tapped and recessed and for wrought pipe drainage systems and vacuum cleaning layouts the **Hajoca** brand of fittings holds a premier position.

(Following list prices adopted June 1, 1911)

Plate S-5132
$5\frac{1}{8}°$ Elbow

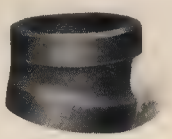


Plate S-5134
$11\frac{1}{4}°$ Elbow

Plate S-5136
$22\frac{1}{2}°$ Elbow

Plate S-5138
45° Elbow

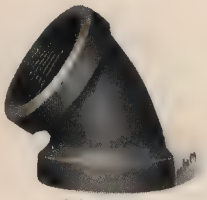


Plate S-5140
60° Elbow

Plate S-5142
90° Elbow

Sizes, inches	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	4
Plate S–5132 to S–5142:						
Black, each	$0.30	$0.38	$0.57	$1.20	$1.45	$2.30
Galvanized, each	.52	.67	1.00	2.10	2.55	4.00

Sizes, inches	5	6	7	8
Black, each	$4.25	$6.25	$11.50	$15.00
Galvanized, each	7.40	11.00	20.00	26.25

CAST IRON RECESSED DRAINAGE FITTINGS FOR WROUGHT PIPE

Plate S–5144
45° long turn elbow

Plate S–5146
90° long turn elbow

Sizes, inches	1¼	1½	2	2½	3	4
Plates S–5144 and S–5146 45° and 90° long turn elbows:						
Black, each	.35	.42	.65	1.40	1.75	2.75
Galvanized, each	.60	.72	1.15	2.45	3.10	4.80

Sizes, inches	5	6	7	8
Black, each	5.25	7.50	13.50	19.00
Galvanized, each	9.20	13.15	23.50	33.25

Plate S–5148
Three-way elbow

Sizes, inches	Black	Galv'd
1½, each	$0.85	$1.50
2, each	1.10	1.95
3, each	3.00	5.25
4, each	5.00	8.75
5, each	7.50	13.15
6, each	13.50	23.50

Plate S–5150
90° elbow with 2-inch side outlet

Size, inches..... 4
Black, each.....$3.85
Galvanized, each. 6.75

Plate S–5152
90° elbow with 2-inch heel outlet

Size, inches..... 4
Black, each.....$3.85
Galvanized, each. 6.75

CAST IRON RECESSED DRAINAGE FITTINGS FOR WROUGHT PIPE

Plate S–5160
90° Long Turn Y, T pattern

Sizes,	Straight Black	Straight Galv.	Reducing Black	Reducing Galv.
1¼-inch, each	$0.57	$1.00	—	—
1½- " "	.70	1.22	$0.80	$1.40
2 - " "	1.10	1.95	1.20	2.10
2½- " "	2.40	4.20	2.65	4.65
3 - " "	3.35	5.85	3.75	6.55

Sizes	Straight Black	Straight Galv.	Reducing Black	Reducing Galv.
4-inch, each	$6.00	$10.50	$ 6.60	$11.55
5- " "	9.50	16.50	10.50	18.50
6- " "	20.00	35.00	22.00	38.50
8- " "	40.00	70.00	44.00	77.00

Plate S–5162
Double 90° Long Turn Y, T pattern

Sizes	Straight Black	Straight Galv.	Reducing Black	Reducing Galv.
1¼-inch, each	$1.10	$1.95	—	—
2 - " "	1.75	3.10	$1.90	$3.35
2½- " "	3.60	6.30	—	—
3 - " "	5.00	8.75	5.50	9.65

Sizes	Straight Black	Straight Galv.	Reducing Black	Reducing Galv.
4-inch, each	$9.00	$15.75	$10.00	$17.50
5- " "	14.00	24.50	15.50	27.00
6- " "	30.00	52.50	33.00	58.00
8- " "	60.00	105.00	—	—

CAST IRON RECESSED DRAINAGE FITTINGS FOR WROUGHT PIPE

Plate S–5164
90° Y, T pattern

Sizes, inches	Straight Black, each	Straight Galv'd, each	Reducing Black, each	Reducing Galv'd, each
1½	$0.57	$1.00	$0.63	$1.10
2	.85	1.50	.95	1.65
2½	1.80	3.15	2.00	3.50
3	2.20	3.85	2.40	4.20
4	3.50	6.15	3.85	6.75
5	6.50	11.35	7.15	12.50
6	9.50	16.50	10.50	18.50
7	17.50	30.50	19.00	33.25
8	23.00	40.00	25.50	44.50
10	47.00	82.00	52.00	88.00

Plate S–5166
Double 90° Y, T pattern

Sizes, inches	Straight Black, each	Straight Galv'd, each	Reducing Black, each	Reducing Galv'd, each
1¼	$0.70	$1.22	—	—
1½	.85	1.50	—	—
2	1.30	2.30	$1.50	$2.60
3	3.40	5.95	3.75	6.55
4	5.25	9.20	5.75	10.00
5	9.50	16.50	10.50	18.50
6	14.00	24.50	15.50	27.00

Plate S–5168
45° Y

Sizes, inches	Straight Black, each	Straight Galv'd, each	Reducing Black, each	Reducing Galv'd, each
1¼	$0.52	$0.90	—	—
1½	.65	1.15	$0.72	$1.25
2	.95	1.65	1.05	1.85
2½	2.10	3.70	2.30	4.00
3	2.65	4.65	2.90	5.10
4	3.85	6.75	4.25	7.40
5	7.10	12.50	7.80	13.65
6	10.50	18.50	11.50	20.00
8	25.00	44.00	27.50	48.00
10	52.00	91.00	—	—

Plate S–5170
45° Double Y

Sizes, inches	Straight Black, each	Straight Galv'd, each	Reducing Black, each	Reducing Galv'd, each
1½	$1.00	$1.75	$1.10	$1.90
2	1.45	2.55	1.60	2.80
2½	3.25	5.70	3.60	6.30
3	4.00	7.00	4.40	7.70
4	5.75	10.00	6.35	11.00
5	10.75	18.80	11.75	20.50
6	16.00	28.00	17.50	30.50
8	38.00	66.50	—	—
10	78.00	137.00	—	—

CAST IRON RECESSED DRAINAGE FITTINGS FOR WROUGHT PIPE

Plate S–5172
60° Y, reducing

Sizes, inches	Black, each	Galv'd, each
1½	$0.72	$1.25
2	1.05	1.85
4	4.25	7.40

Plate S–5174
Basin T

Sizes, inches	Black, each	Galv'd, each
1½	$0.70	$1.22
2	1.10	1.95
2 x 1½	1.20	2,10

Plate S–5176
Basin Cross

Sizes, inches	Black, each	Galv'd, each
2	$1.75	$3.10
2 x 1½	1.95	3.40

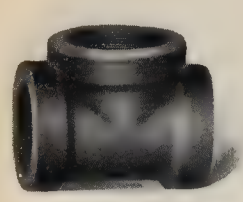


Plate S–5178
T

Sizes, inches	Straight Black, each	Straight Galv'd, each	Reducing Black, each	Reducing Galv'd, each
1½	$0.55	$1.00	—	—
2	.80	1.40	$0.90	$1.60
2½	1.50	2.50	1.65	2.75
3	2.00	3.50	2.20	3.85
4	3.25	5.70	3.60	6.30
5	6.00	10.50	6.60	11.55
6	8.75	15.25	—	—
8	21.00	37.00	—	—

Plate S–5180
Roof connection

Sizes	Black each	Galv'd each
3-inch..	$1.20	$2.10
4-inch..	1.50	2.60
5-inch..	2.00	3.50
6-inch..	4.25	7.40

Plate S–5182
Tucker connection

Sizes	Black each	Galv'd each
2-inch..	$0.80	$1.40
3-inch..	2.00	3.50
4-inch..	3.25	5.70
5-inch..	6.00	10.50
6-inch..	8.75	15.25

CAST IRON RECESSED DRAINAGE FITTINGS FOR WROUGHT PIPE

Plate S–5184. Increaser.

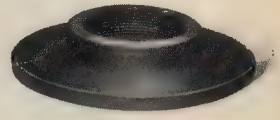


Plate S–5186
Closet flange, iron, for 4-inch pipe

	Each
7 inches diam., black	$1.35
7 inches diam., galv	2.35
10 inches diam., black	1.70
10 inches diam., galv	2.95

Sizes, inches	3 x 2	4 x 2	4 x 3	5 x 2	5 x 3	5 x 4	6 x 4	6 x 5	8 x 6
Black, each	$2.50	$3.75	$3.75	$5.50	$5.50	$5.50	$6.50	$6.50	$15.00
Galvanized, each	4.40	6.55	6.55	9.65	9.65	9.65	11.35	11.35	26.25

Plate S–5190
Offset

To Offset	Sizes, inches	2	3	4	5	6
4 inches	Black, each	$2.15	$3.35	$5.00	—	—
4 inches	Galvanized, each	3.75	5.85	8.75	—	—
6 inches	Black, each	2.40	4.00	5.75	$9.00	$12.50
6 inches	Galvanized, each	4.20	7.00	10.00	15.75	22.00
8 inches	Black, each	2.60	4.75	6.50	10.00	13.50
8 inches	Galvanized, each	4.55	8.30	11.35	17.50	23.50
10 inches	Black, each	2.85	5.50	7.50	11.00	14.50
10 inches	Galvanized, each	5.00	9.65	13.15	19.25	25.50
12 inches	Black, each	—	—	8.50	12.00	15.50
12 inches	Galvanized, each	—	—	15.00	21.00	27.00

CAST IRON RECESSED DRAINAGE FITTINGS FOR WROUGHT PIPE

Plate S–5192
Half "S" or "P" trap with vent

Sizes, inches.....	1½	2	3	4	5	6	8
Black, each.....	$1.70	$2.20	$5.00	$10.00	$21.50	$32.50	$55.00
Galvanized, each	3.00	3.85	8.75	17.50	37.50	57.00	95.00

Plate S-5194 (not illustrated) "S" trap with vent

Sizes, inches.....	1½	2	3	4	5	6
Black, each.....	$3.25	$4.00	$9.25	$14.00	$21.00	$36.00
Galvanized, each	5.75	7.00	16.00	24.00	37.00	63.00

Plate S–5196
Running trap with double vent

Sizes, inches.....	1½	2	3	4	5	6	8
Black, each.....	$2.70	$3.30	$5.50	$ 9.75	$24.50	$33.50	$65.00
Galvanized, each	4.70	5.75	9.50	17.00	43.00	50.50	115.00

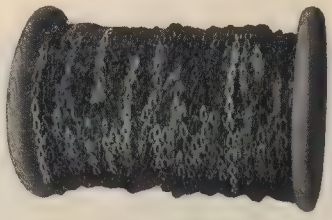


Plate S–5370

Plumbers' safety chain

Number	00	0	1	2
Brass, per 100 feet	$4.00	$5.00	$6.25	$8.00
Nickel plated, per 100 feet	4.25	5.25	6.50	8.50

Full reels contain 500 feet.

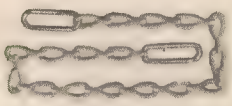


Plate S–5372

Plumbers' safety chains, with snaps

	Per box of 1 dozen
No. 00 basin, nickel plated, 16½ inches long	$1.15
No. 0 bath, nickel plated, 26¼ inches long	1.85
No. 0 tray, brass, 19¾ inches long	1.35

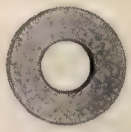


Plate S-5373

Hajoca galvanized washer for basin faucet shank.

Per 100 . . . $4.00

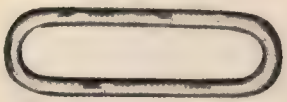


Plate S–5374

Nickel-plated snap for chain

	Per Gross
Small	$1.75
Large	2.00

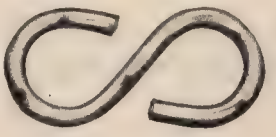


Plate S–5376

"S" hook

Numbers	3	4	5
Nickel plated, per gross	$1.70	$1.50	$1.30

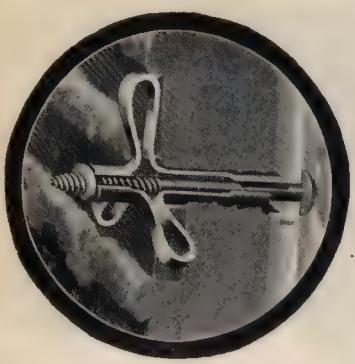


Plate S–5377
Bolt in lath-and-plaster wall

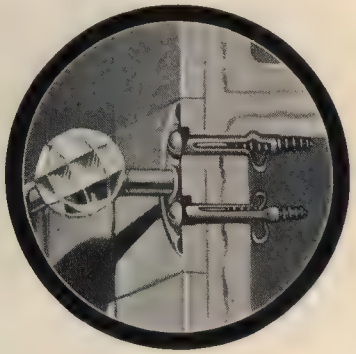


Plate S–5378
Bolt in glazed tile wall

ANKYRA BOLTS

This device is especially suited for setting all kinds of bathroom accessories from the lightest soapcup holder to the heaviest medicine cabinet in walls of any construction. The bolt becomes permanently anchored in the wall and will not loosen. Ordinary wood screws are used and can be withdrawn or screwed into the bolt as often as desired.

Collapsing tools are necessary to insert these bolts. Directions are furnished with the bolts and tools.

The size stamped on the bolt indicates the size or number of wood screw to be used in each case.

Stock No.	Size, inches	Per 100	Suited for
8E	9/32 x 1 1/2	$2.90	Accessories on solid wall
8	9/32 x 2 1/2	3.50	Accessories on hollow wall
10	3/8 x 2 1/2	3.75	General work
12	3/8 x 2 1/2	3.75	" "
14	7/16 x 2 1/2	4.15	Supporting heavy fixtures
16	7/16 x 2 1/2	4.15	" " "

Collapsing Tools—No. 8E to No. 16, each..... $0 60
Each size of bolt requires a corresponding size of collapsing tool.

Plate S–5380

Round head, single expansion

Plate S–5381

Round head, double expansion

Plate S–5382

Double expansion, with loose head

Expansion bolts, nickel-plated brass heads

Length, inches....	¾	1	1¼	1½	2	2½
Plate S–5380:						
$\frac{3}{16}$-inch, per 100..	$17.20	—	—	—	—	—
¼-inch, per 100..	—	$22.00	$22.80	$24.40	—	—
Plate S–5381:						
¼-inch, per 100..	—	—	—	—	$29.00	$31.00
Plate S–5382:						
¼-inch, per 100..	—	—	—	—	30.00	32.00

Other sizes and lengths, also bolts with brass heads or flat heads can be furnished; prices on application.

Plate S–5384

Hajoca sink and bracket bolts with nuts.

Diameter, ¼-inch; size ¾-inch has one nut; other sizes have two nuts.

Length, inches	Iron	Brass
¾, per 100....	$1.70	—
1¼, per 100....	1.90	$7.00
1¾, per 100....	—	7.60
2¼, per 100....	2.20	—
2½, per 100....	—	8.60
3 , per 100....	2.50	9.80

Plate S–5386

Brass cotter pin

Length, inches.	1	1¼	1½
⅛", per 100...	$5.36	—	—
$\frac{3}{16}$", per 100...	10.25	$11.60	$12.90
¼", per 100...	16.00	18.80	21.60

Plate S–5390

Faucet nuts and screws; brass, assorted sizes, in a tin box with separate compartments.

Per box of 1 gross..... $3.00

Just the thing for repair work; a size will be found to fit any faucet.

Plate S–5391 Faucet nut

Plate S–5392 Faucet screw

	Gross
Plate S–5391	$2.50
Plate S–5392.....	2.50

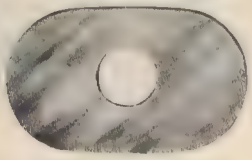


Plate S–5396

Hajoca nickel-plated oval washer for closet screws or bolts.

Per 100 ..... $2.25

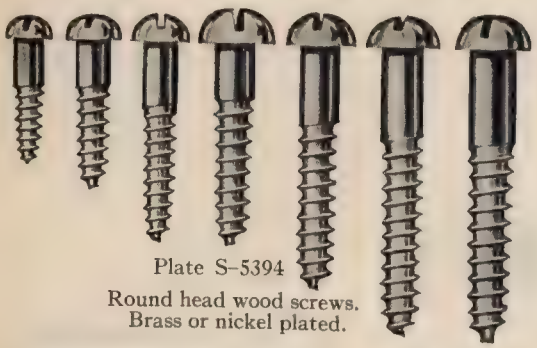


Plate S–5394

Round head wood screws. Brass or nickel plated.

Number.....	8	10	12	14
$\frac{5}{8}$-inch, per gross	$1.85	—	—	—
$\frac{3}{4}$- " " "	2.00	—	—	—
1 - " " "	2.45	$3.15	—	—
1$\frac{1}{4}$- " " "	2.85	3.50	—	—
1$\frac{1}{2}$- " " "	3.30	—	$5.35	—
1$\frac{3}{4}$- " " "	4.10	—	6.05	—
2 - " " "	5.25	—	6.85	—
2$\frac{1}{2}$- " " "	9.40	—	9.70	—
3 - " " "	13.70	—	—	$14.30
3$\frac{1}{2}$- " " "	—	—	—	16.45
4 - " " "	—	—	—	19.00

Plate S–5397

Hajoca closet floor screw with nickel-plated loose head.

Per 100...$7.00

Plate S–5408

Nickel-plated stamped brass flanges with teeth.

To fit pipe:	Per dozen
⅜-inch I. P. size	$1.20
½- " " "	1.20
1¼-inch O. D.	1.60
1½- " "	1.60

The stamped flanges are made of heavy gauge metal; the teeth rigidly hold the flange to the pipe.

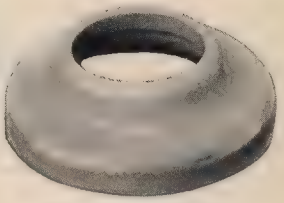


Plate S–5409

Hajoca vitreo China flanges.

To fit pipe:	Each
⅜-inch I. P. size	$0.40
½- " " "	.40
1¼-inch O. D.	.60
1½- " "	.70

Vitreo china flanges present a very inviting appearance. They harmonize with the prevailing color of the fixtures and are easily kept clean and white.

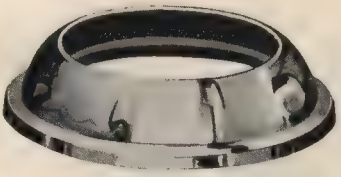


Plate S–5410

Nickel-plated brass flange for closet spud.

For 1¼-inch spud, per doz..$1.50

For 1½-inch spud, per doz.. 1.60

For 2 -inch spud, per doz.. 1.80

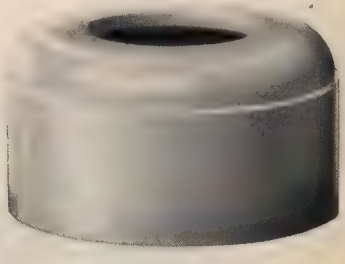


Plate S–5411

Hajoca vitreo china deep box flange for closet spud.

To fit 1½-in. O.D. pipe, each $1.25
To fit 2-in. O.D. pipe, each 1.50

These flanges cover both spud and coupling nut on water closet bowls. They add much to the appearance of the fixture.

Plate S–5414
Rubber seat washers for compression faucets

	Per box of 100
For ⅜ or ½-inch faucets	$2.00
" ⅝-inch faucets	2.00
" ¾- " "	2.00
" 1 - " "	3.00

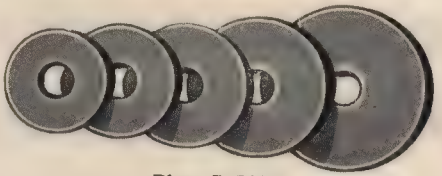


Plate S–5418
Hajoca seat washers for compression faucets

	No. 10 Composition Per box of 100	Cotton Fibre Per box of 100
For ⅜-inch faucets	$2.00	$1.50
" ½- " "	2.00	1.50
" ⅝- " "	2.50	1.50
" ¾- " "	3.25	2.00

Plate S–5422
Hajoca rubber Fuller balls

Sizes, inches	⅜	½	9/16	⅝	11/16	¾	1
Per 100	$1.60	$2.10	$2.30	$2.50	$4.00	$4.50	$8.40

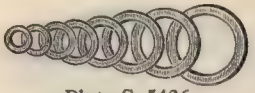


Plate S–5426

Hajoca union washers for malleable iron unions.

	Rubber Per 100	Fibre Per 100
¼-inch	$0.75	—
⅜- "	.90	$2.40
½- "	1.40	3.00
¾- "	1.80	4.00
1 - "	2.70	4.20
1¼- "	3.00	5.75
1½- "	5.00	6.50
2 - "	5.50	7.80

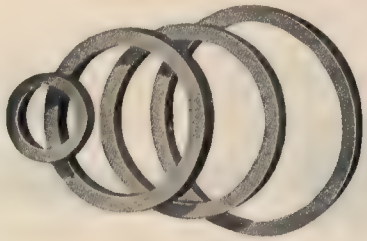


Plate S–5428

Hajoca rubber slip joint washers

	Per 100
For ⅜-inch slip joint nut	$1.60
" ½- " " " "	1.60
" ¾- " " " "	2.20
" 1 - " " " "	2.60
" 1¼- " " " "	3.10
" 1½- " " " "	3.40
" 2 - " " " "	4.50

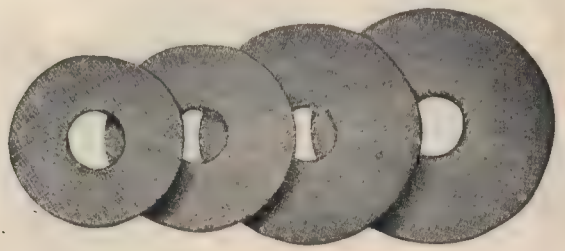


Plate S–5430

Hajoca top washers for compression faucets

Sizes of faucets, inches	⅜, ½, ⅝ or ¾	1
Cloth inserted rubber, per 100	$2.50	$3.50
Fibre, per 100	3.00	8.00

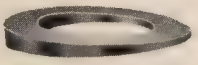


Plate S–5432

Hajoca rubber beveled washer for connected waste and overflow.

Per dozen..... $1.50

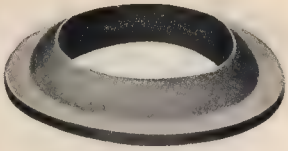


Plate S–5434

Hajoca rubber basin and sink gaskets.

Basin, per dozen..... $0.70
Sink, " " 1.50

Plate S–5436

Hajoca rubber waste washer for No. 20 waste.

	Per dozen
For No. 20 basin waste	$2.00
" No. 20 bath "	2.20

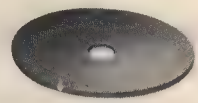


Plate S–5438

Hajoca rubber waste washer for No. 10 basin or bath waste.

Per dozen..... $1.50

Plate S–5440

Hajoca cored rubber basin or bath stopper.

Sizes, inches.....	$\frac{7}{8}$	1	$1\frac{1}{8}$	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$	2
Plate S–5440—Per dozen	$1.00	$1.00	$1.10	$1.20	$1 45	$2.00	$2.50
Plate S–5441—Per dozen..	3.00	3.00	3.30	3.60	4.35	6.00	7.50

Plate S–5441

Hajoca solid rubber basin or bath stopper.

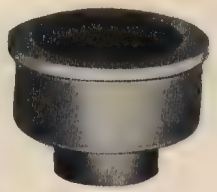


Plate S–5444

Hajoca rubber hopper connection
Per dozen..... $2.40

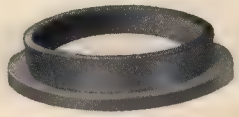


Plate S–5446

Hajoca rubber closet spud washer.

Sizes, inches	1¼	1½	2
Per dozen	$1.60	$2.00	$2.60

Plate S–5448

Hajoca cup leathers for ball cocks.

Small, per dozen.....	$0.50
Large, per dozen.....	.50

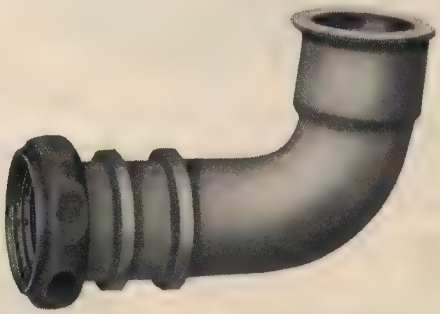


Plate S–5450
Rubber closet coupling

No.	Size of Spud, inches		Per dozen
3	1¼	Bent, short.....	$ 8.25
4	1¼	Bent, medium length.....	10.00
4A	1¼	Bent, long (as shown).....	11.00
6AA	1½	Bent, medium.....	15.00
7	1¼	Straight.....	7.00
82	1¼	Bent, adjustable.....	6.00

No. 82 is lighter in weight than the other numbers.

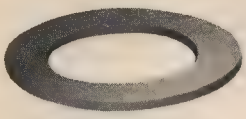


Plate S–5452

Hajoca rubber flat tank valve washer, $1\frac{5}{16}$ x $2\frac{3}{16}$ inches.

Per dozen..... $1.40

Plate S–5454

Hajoca rubber feather edge tank valve washer.

Sizes, inches	Per dozen
$1\frac{1}{4}$	$2.00
$1\frac{1}{2}$	2.20
$1\frac{3}{4}$	2.40

Plate S–5455

Hajoca rubber square washer for No. 2 syphon tank valve, $1\frac{5}{16}$ x $1\frac{15}{16}$ inches.

Per dozen $3.00

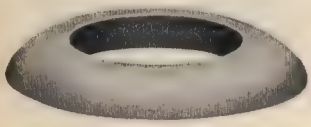


Plate S–5456

Hajoca rubber quarter round tank valve washer, $1\frac{1}{4}$ x $2\frac{1}{4}$ inches.

Per dozen..... $1.70

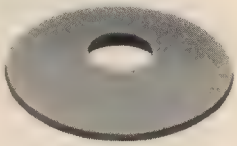


Plate S–5460

Hajoca rubber tank valve washer

	Per dozen
For No. 10 (Regulo) valve	$2.40
For No.110(Regulo) valve	2.40

Plate S–5462

Hajoca plumbago-asbestos gasket for closet floor plate

Each..... $0.90

Plate S–5468

Hajoca round rubber bumper with tack.

⅝-inch diameter, per dozen $0.30

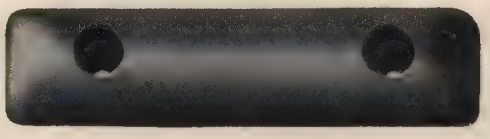


Plate S–5476

Hajoca long rubber seat bumper with brass screws.

Per dozen, black..... $1.80
" " , white..... 2.25

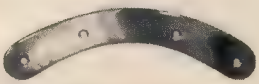


Plate S–5478

Hajoca No. 0 nickel-plated reinforcing plate, with screws.

Each..... $0.90

Plate S–5480

Hajoca No. 1 nickel-plated reinforcing plate with long rubber bumpers and screws.

Each..... $2.00

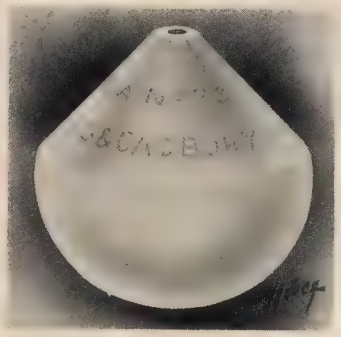


Plate S–5484

Hajoca rubber tank ball

No. 21–	diameter	2	inches,	per	dozen	$5.50
No. 23–	"	2½	"	"	"	6.00
No. 24–	"	2¾	"	"	"	8.00

Hajoca rubber tank balls are composed of pure rubber and other ingredients which chemical analysis and practical experience have proved to be superior for rubber tank ball purposes. Each ball is guaranteed. For quality and service they have proved exceptionally satisfactory.

The cone-shaped top is heavy and thick and permits the spud to be set in rigidly and on a true vertical. The ball-shaped bottom is soft and pliable and easily adjusts itself to any irregularity in the seat, thus insuring a tight seating. The top has rigidity, the bottom has pliability, essential features for a satisfactory flush tank ball.

Plate S–5489

Brass stem for rubber tank ball

Per dozen $1.00

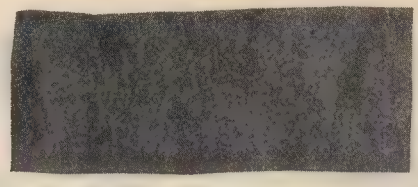


Plate S–5492

Hajoca hydraulic leather. A high grade of leather, oil tanned, which makes it soft and pliable and ready for immediate use. Specially adaptable for washers, pump leathers, etc.

Per pound..... $3.00

An extra charge will be made for full sides.

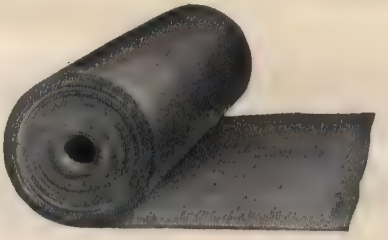


Plate S–5494

Hajoca rubber sheet packing, for washers, etc.

Pure gum, $\frac{1}{8}$-inch thick, per pound..... $2.00
Cloth insertion, $\frac{1}{8}$-inch thick, 3-ply, per pound..... .75

Sheet is 36 inches wide.

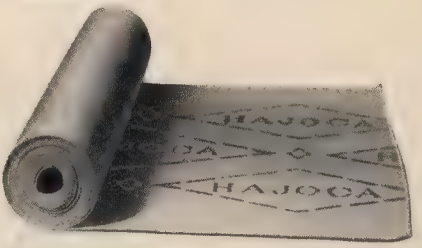


Plate S–5496

Hajoca sheet packing

Suitable for steam, water or air, and can be used for washers, union or manhole gaskets, cylinder heads, etc.

$\frac{1}{16}$-inch thick, per pound..... $1.00
$\frac{1}{8}$-inch " " " 1.00

Sheet is 36 inches wide.

Plate S–5500

Hajoca cotton or lamp wick packing.

Per ball (2 ounces)..... $0.20

Plate S–5504

Hajoca brass hose clamp for 3-ply or 4-ply rubber garden hose.

¾-inch per dozen..... $1.20

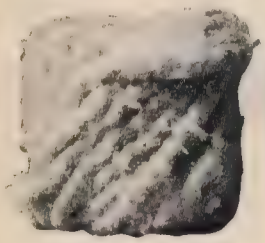


Plate S–5502

Hajoca asbestos wick packing.

Per ball (1 pound)..... $1.50

Plate S–5506

Hajoca brass hose coupling for rubber garden hose.

¾-inch, hose thread per dozen $3.50

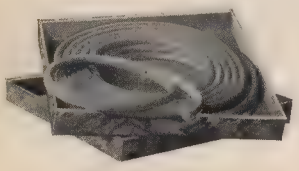


Plate S–5508

Hajoca rubber tubing

⅜-inch per foot..... $0.16

Plate S–5510

Garden hose

¾-inch per foot..... $0.40

Plate S–5600

Plate S–5601

Plate S–5603

Malleable Iron Pipe Hangers

Sizes	F. and M. With beam clamp Plate S–5600	F. and M. With lag screw Plate S–5601	F. and M. Without lag screw	Ball Joint With beam clamp	Ball Joint With lag screw Plate S–5603
½-inch, each	$0.55	$0.15	$0.10	$0.55	$0.15
¾- " "	.58	.18	.12	.58	.18
1 - " "	.58	.18	.12	.58	.18
1¼- " "	.60	.20	.14	.60	.20
1½- " "	.62	.22	.16	.62	.22
2 - " "	.65	.25	.18	.65	.25
2½- " "	.70	.30	.22	.70	.30
3 - " "	.95	.35	.28	.75	.35
3½- " "	1.10	.50	.43	.90	.50
4 - " "	1.20	.60	.53	1.00	.60
5 - " "	1.35	.70	.63	1.10	.70
6 - " "	1.50	.90	.82	1.30	.90
7 - " "	1.80	1.20	1.12	1.60	1.20
8 - " "	2.00	1.40	1.32	1.80	1.40

When ordering hangers with beam clamp, the size of the beam must always be stated.

The F. & M. hanger has a hinge at the bottom of the loop.

The ball joint hanger will swing in any direction, and the lag screw can be screwed up or down to adjust the height after being hung without removing the hanger loop.

The sockets of all the above hangers have standard I. P. thread so that wrought pipe can be substituted for the lag screw, when desired to lengthen the hanger.

Plate S–5612

Solid ring pipe hanger, galvanized

Plate S–5614

Split ring extension pipe hanger, galvanized

Sizes, inches	⅜	½	¾	1	1¼	1½	2
Plate S–5612. Solid ring pipe hanger, galvanized: Each	$0.06½	$0.06½	$0.07	$0.09	$0.12	$0.16	$0.25
Plate S–5614. Split ring extension pipe hanger, galvanized:							
With ¼x4″ nipple, each	.25	.25	.30	.35	.40	.50	.60
Without nipple, each	.20	.20	.25	.30	.35	.45	.55

Plate S–5618
Pipe strap

Sizes ¼, ⅜, ½, ¾, 1, 1¼, 1½ and 2-inch. To fit over wrought pipe.
Price, per pound, all sizes $0.30

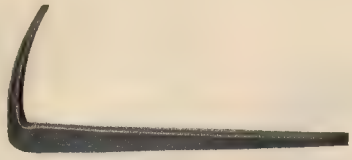


Plate S–5624
Plumber's hook

Plate S–5624. Plumber's hooks

For ½-inch pipe, per 100..	$1.20
" ¾- " " " 100..	1.30

Plate S–5625

No. 6 Iron Jack Chain

Per box of 12 yards..... $1.30

Convenient for hanging pipe, etc.

Plate S–5627
Wire pipe hook

Plate-S 5627 Galvanized wire pipe hook

Length, inches.....	3	4	6	8	10
For ⅜" pipe, per 100	$1.00	$1.15	$1.40	—	—
For ½" pipe, per 100	1.10	1.20	1.50	$1.90	—
For ¾" pipe, per 100	—	1.30	1.70	2.20	—
For 1" pipe, per 100	—	1.50	2.00	2.40	$2.80
For 1¼" pipe, per 100	—	1.90	2.50	3.00	3.50
For 1½" pipe, per 100	—	—	2.70	3.50	4.00
For 2" pipe, per 100	—	—	2.90	4.00	4.50

These hooks are quick, convenient and economical

Plate S–5630

Jenkins valve disc for globe and angle valves.

Sizes, inches	¼	⅜	½	¾	1	1¼	1½	2
Each	$0.06	$0.08	$0.08	$0.10	$0.12	$0.18	$0.24	$0.36

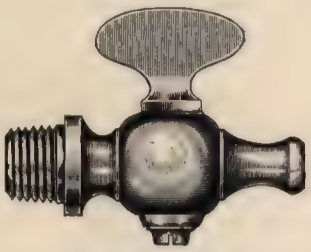


Plate S–5640

Straight air cock
T handle

Sizes, inches	¼	⅜
Plate S–5640. T handle, each	$0.45	$0.50
Plate S–5640. Lever Handle, each	.60	.65

Plate S–5650

Angle radiator valve
Quick opening for hot water

Plate S–5654

Angle radiator valve
Jenkins disc, for steam

Sizes, inches.....	½	¾	1	1¼	1½	2
Plate S–5650.....	$2.40	$2.85	$3.65	$5.05	$7.10	$10.85
Plate S–5654.....	3.20	3.80	4.75	6.40	8.10	13.10

Plate S–5656

Angle radiator valve
Jenkins Bros., for steam

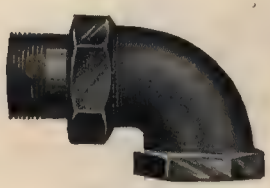


Plate S–5660

Radiator union elbow
For hot water; rough body, nickel plated all over

Sizes, inches.....	⅜	½	¾	1	1¼	1½	2
Plate S–5656....	$3.00	$3.15	$3.90	$4.70	$6.25	$8.15	$13.00
Plate S–5660....	—	1.75	2.00	2.50	3.20	4.00	7.00

The above valves have rough body nickel plated all over, with union with outside thread and wood wheel. In Plate S–5650 a small opening in the disc permits sufficient circulation when the valve is closed to prevent the radiator from freezing in cold weather.

Plate S–5664

Hajoca automatic air valve
For steam radiator

Nickel-plated, each..... $1.25

Plate S–5666

No. 20 automatic air valve
For steam radiator

Nickel-plated, each..... $0.75

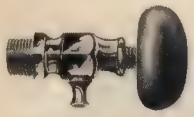


Plate S–5668

Compression air valve
with wood wheel

Plate S–5670

Coin key air valve

Plate S–5672

Compression loose key
air valve
One key furnished
with each dozen.

Plate S–5668—$\frac{1}{8}$-inch nickel-plated compression air valve, wood wheel, for hot water radiator, each..... $0.30

Plate S–5670 — $\frac{1}{8}$-inch nickel-plated coin key air valve, for hot water radiator, each..... .15

Plate S–5672—$\frac{1}{8}$-inch nickel-plated loose key air valve, for hot water radiator, each..... 25

Plate S–5680
Brass globe valve with brass seat

Plate S–5684
Brass globe valve with Jenkins disc

Sizes, inches	⅛	¼	⅜	½	¾
Plate S–5680. Each	$0.72	$0.72	$0.77	$1.00	$1.26
Sizes, inches	1	1¼	1½	2	2½
Each	$1.80	$2.52	$3.50	$5.30	$10.00
Sizes, inches	¼	⅜	½	¾	1
Plate S–5684. Each	$1.10	$1.25	$1.60	$2.20	$2.80
Sizes, inches	1¼	1½	2	2½	3
Each	$4.00	$5.50	$8.75	$15.75	$22.00

Angle valves, same price as globe valves.

Plate S–5686
Brass globe valve Jenkins Bros.

Plate S–5687
Brass angle valve Jenkins Bros.

Sizes, inches	⅛	¼	⅜	½	¾
Plates S–5686 and S–5687. Each	$1.10	$1.10	$1.25	$1.60	$2.20
Sizes, inches	1	1¼	1½	2	2½	3
Each	$2.80	$4.00	$5.50	$8.75	$15.75	$22.00

NOTE.—Jenkins Bros. valves are regularly furnished with hard discs suitable for use with steam or hot water; with cold water, air, etc., valves with a softer disc should be used, and will be furnished when so specified.

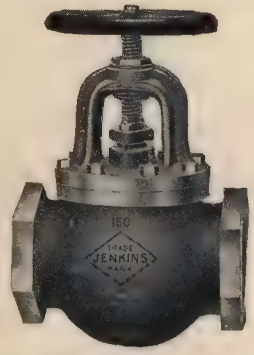


Plate S–5692

Iron body globe valve. Brass mounted, with yoke, Jenkins Bros.

Globe or Angle	Jenkins Bros.	Standard, with brass seat
2 -inch, each	$10.00	$ 7.00
2½- " "	12.00	9.00
3 - " "	16.75	12.50
3½- " "	19.50	15.25
4 - " "	24.00	19.00

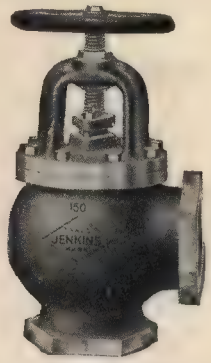


Plate S–5694

Iron body angle valve. Brass mounted, with yoke, Jenkins Bros.

Globe or Angle	Jenkins Bros.	Standard, with brass seat
4½-inch, each	$32.00	$24.00
5 - " "	40.00	27.00
6 - " "	48.00	37.50
7 - " "	80.00	63.00
8 - " "	90.00	72.00

Note.—Jenkins Bros. valves are regularly furnished with hard discs suitable for use with steam or hot water; with cold water, air, etc., valves with a softer disc should be used, and will be furnished when so specified.

Plate S–5696

Brass gate valve, Kennedy pattern, with iron wheel.

Plate S–5698

Jenkins Bros.' brass gate valve, with iron wheel.

Plate S–5700

Iron body, brass mounted gate valve, Kennedy pattern.

Sizes, inches	¼	⅜	½	¾	1	1¼	1½	2	2½	3
Plate S–5696	$1.45	$1.45	$1.65	$2.05	$2.80	$3.70	$5.00	$7.30	$13.00	$19.00
Plate S–5698	1.45	1.45	1.65	2.05	2.80	3.70	5.00	7.30	13.00	19.00

Sizes, inches	2	2½	3	3½	4
Plate S–5700	$10.00	$11.50	$14.00	$17.00	$19.00

Plate S–5702

Swinging check valve. Brass

Sizes, inches	⅜	½	¾	1	1¼	1½	2
Plate S-5702	—	$2.00	$2.25	$2.80	$3.65	$4.75	$6.75
Plate S-5704 Horizontal	$0.70	.90	1.15	1.60	2.25	3.15	4.75

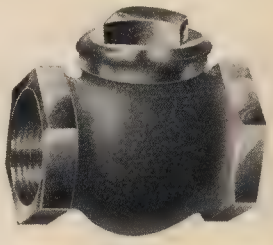


Plate S–5704

Check valve. Brass

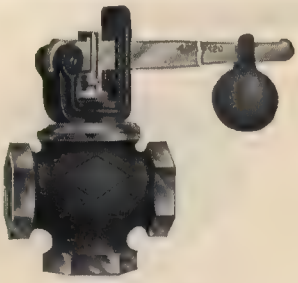


Plate S–5706

Brass safety valve, with lever and weight; cross pattern as shown, or angle pattern.

	Jenkins Bros.	Standard
½-inch	$ 6.00	$ 3.25
¾- "	7.50	3.90
1 - "	9.00	4.70
1¼- "	13.50	7.15
1½- "	16.50	9.00
2 - "	24.00	12.50

Can be furnished in larger sizes, with iron body.

Plate S–5710

Water pressure relief valve; brass, semi-finished.

½ or ¾-inch	$10.00
1 -inch	12.00
1¼- "	15.00
1½- "	18.00
2 - "	27.00

When ordering, state pressure at which valve is to blow off.

The above safety and relief valves when used with kitchen range boilers or on the supply lines leading to them will prevent explosions in case excessive steam pressure is generated in the range boiler, or should the water pressure become excessive. The outlets can be piped, thus avoiding flooding of the kitchen or cellar in case the valve blows off.

Plate S-5712. Hajoca galvanized expansion tank

Height, inches	Diameter, inches	Radiation, square feet	Price
20	12	30	$8.00
30	12	500	9.00
30	14	700	12.50
30	16	950	14.00
36	16	1300	15.00
48	16	2000	16.50

Plate S–5712

Water gauge extra, see Plate S–5724. The openings in tank are 1 inch, except those for the water gauge which are ½ inch.

The Hajoca No. 918 tank is hand made with malleable iron heads. The Hajoca No. 948 is made of steel with seams and heads welded.

Plate S–5716

Altitude gauge

Each.....$3.25

The gauge indicates the height of water in the heating system. It is placed on the boiler and when the system is first filled to the proper height the stationary hand is set at the point indicated. Water should be added as soon as the operating hand shows that the level has fallen.

Plate S–5718

Floor and ceiling plate
Hinged steel, with snap lock

	Nickel plated	Black
½-inch, each.....	$0.27	$0.16
¾-inch, each.....	.28	.17
1 -inch, each.....	.32	.20
1¼-inch, each.....	.35	.22
1½-inch, each.....	.38	.25
2 -inch, each.....	.45	.30
2½-inch, each.....	.65	.50

Light, simple and strong; nothing to get out of order or lost, and being hinged can be fitted to the pipe after it is installed.

Plate S–5720
Hot water thermometer. Angle
Each..... $1.60

Plate S–5722
Hot water thermometer. Straight
Each..... $1.50

These thermometers are for use with hot water heating boilers. To secure accurate reading, the stem should be immersed in the water at a point where it will be exposed to continuous circulation.

Plate S–5724
Water gauge, for expansion tank
$\frac{3}{4}$ x 12-inch glass; $\frac{1}{2}$-inch iron pipe thread.
Each..... $2.00

Plate S–5730
Water gauge glass

Length, inches.....	10	12	14
$\frac{1}{2}$-inch, each.....	$0.25	$0.30	$0.35

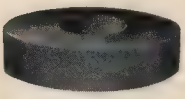


Plate S-5732

Plate S-5732 **Hajoca** rubber gauge glass washer, $\frac{1}{2}$ inch.

Per dozen..... $0.40

Plate S–5740

Asbestos magnesia sectional moulded covering
For use with high pressure steam pipes

Plate S–5744

Felt covering

¾-in. thick, for use with low pressure steam pipes
½-in. thick, for use with hot water pipes

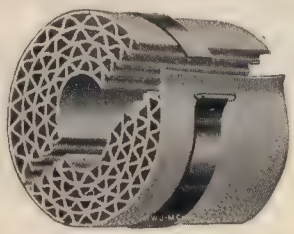


Plate S–5746

Asbestos air-cell covering

4-ply, as shown for high pressure steam pipes
3-ply, for low pressure steam pipes
2-ply, for hot water pipes

Price List of All Above Styles

To cover pipe, inches	½	¾	1	1¼	1½	2	2½
Per foot	$0.22	$0.24	$0.27	$0.30	$0.33	$0.36	$0.40
To cover pipe, inches	3	3½	4	4½	5	6	
Per foot	$0.45	$0.50	$0.60	$0.65	$0.70	$0.80	

Our pipe coverings are furnished in three-foot sections, with outer wrapper of cloth and brass lacquered bands. By preventing waste of heat by radiation they effect a saving of fuel which will pay for their first cost in a short time. Asbestos cement, or mineral wool, may be used to cover fittings.

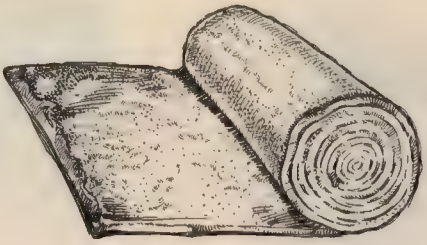


Plate S–5750

Hair felt

In rolls containing 300 square feet

¼-inch thick, per square foot	$0.11
½-inch thick, per square foot	.13
¾-inch thick, per square foot	.17
1 -inch thick, per square foot	.20
1½-inch thick, per square foot	.30
2 -inch thick, per square foot	.38

An extra charge will be made for cut rolls.

For covering cold water pipes that sweat and drip, also to insulate walls or partitions of cold storage plants, etc.

Plate S–5752

Mineral wool

Per bag of 50 pounds.... $3.50

Mineral wool is a sound deadener and is frequently used for this purpose around waste pipes in thin partitions.

It is also used in filling underground trenches where pipes are run from one building to another. It is fire-proof and vermin-proof.

Plate S–5754

Asbestos cement

Per bag of 100 pounds... $4.00

Used for covering heating and other boilers and all irregular surfaces which cannot be covered by sectional pipe covering, to prevent radiation of heat. It is neat in appearance, a good non-conductor and absolutely fire-proof.

Plate S–5820

Porcela, for cleaning porcelain enameled baths, lavatories, sinks etc.

Per ½ pound can $0.30

Plate S–5822
White lead

1-pound can, each..... $0.30

Plate S–5826
Putty

12½-pound can, each..... $1.50

Plate S–5824
Drain pipe solvent

1-pound can, each..... $0.50
2-pound can, each..... 1.00

This solvent will clear any drain pipe stoppage not caused by glass, metal or other solid substance. It is harmless to plumbing fixtures.

Plate S–5830
Smooth-on iron cement
Blue label

1-pound can, each..... $0.60
5-pound can, each..... 2.50

An iron cement made in powder form, for repairing leaks or breaks in castings, or making connections in steam or hydraulic work.

Plate S–5831
Red Cross pipe joint filler
1-pint can, each..... $0.70
½-gallon can, each..... 2.50
An excellent pipe joint paste, ready for immediate use without mixing. Will not harden and makes a tight joint.

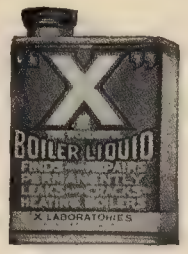


Plate S–5832
"X" Boiler liquid
1-quart can, each..... $6.00
½-gallon can, each..... 10.00
The liquid finds and repairs permanently leaks and cracks in heating boilers and removes scale.

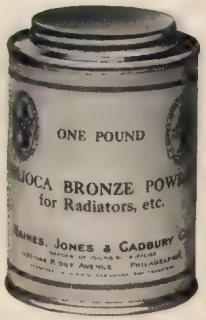


Plate S–5834
Bronzing powder
Gold, per pound..... $1.80
Aluminum, per pound... 1.80

Plate S-5835 (not illustrated.
Bronzing liquid.
½-gallon can, each..... $1.00
1-gallon can, each..... 1.50

Plate S–5836
Hajoca screw-cutting oil
1-gallon can, each..... $1.80
5-gallon can, each..... 7.50
For use in threading wrought pipe, brass pipe, etc. It is the same oil as we use in our own pipe-cutting department and will be found entirely satisfactory.

One pound of gold bronze with 1 quart of liquid will cover about 300 square feet of radiation. One pound of aluminum bronze with 1 gallon of liquid will cover about 600 square feet of radiation.

Plate S–5840

Hajoca plumber's furnace
With pump

Each..... $16.60

Plate S–5842

Hajoca plumber's furnace
With rubber bulb and safety air valve

Each..... $15.00

The **Hajoca** is the original old reliable plumber's blast furnace. Since first placed on the market in 1879, over 150,000 have been sold and have given the highest satisfaction. The burner produces an intensely hot blue flame and with a minimum consumption of gasoline melts 10 pounds of solder in 6 minutes.

The reservoir with a capacity of 1 gallon is made of heavy tin plate strengthened and protected by the bottom ring. The brass valves are of a durable construction assisting in a safe and easy operation of the furnace.

Every furnace is tested before leaving the factory.

All parts are interchangeable and removable when worn out. See list of parts on next page.

Attention is called to the safety furnace air valve on the furnace with bulb. This device prevents gasoline from escaping from the reservoir in case the bulb should become detached and so prevents explosions, fires and burning of the workman.

The furnace with pump permits a much higher pressure in the reservoir and hence a hotter and more rapid melting flame.

Always insist on getting the genuine **Hajoca** with the letters "H., J. and C" cast on the top plate of the reservoir.

Plate S–5844

Repair parts for **Hajoca** Plumber's Furnace

	Each		Each
Bulb	$1.00	Pump	$2.60
Burner	.35	Reservoir	7.00
Coil	1.50	Safety Air Valve	1.75
Coil Cup	1.00	Shield, for solder pot	2.00
Connecting Pipe	.30	Shield, No. 3, for soldering coppers	5.00
Ell	.25	Tee	.25
Filling Screw	.80	Top Plate	.80
Handle	1.00	Upright	.30
Handle ear	.30	Valve	1.50
Nut No. 1 or 2	.08	Wire for coil	.20
Plug	.20		

Hajoca repair parts are interchangeable with other makes of plumber's furnaces.

Plate S–5852

Hajoca large portable gasoline furnace

Capacity of reservoir, 4 gallons; the shield will take a 10½-inch solder pot.

Each, net $57.50

Our portable furnace is built on the same principle as our well-known **Hajoca** plumber's blast furnace, and is intended for melting large quantities of metal. It is adapted for the use of water, gas and electric companies, etc., for laying mains as well as for shop use. It weighs 105 pounds, hence can be readily moved about. It has a powerful flame and will melt 100 pounds of lead in 15 minutes.

Plate S–5854

Solder pot

5	-inches diameter, each	$0.65
6	- " " "	.85
10½	- " " "	3.00
13½	- " " "	5.00

Plate S–5856

Plumber's gasoline hand torch

Each $6.50

A handy, safe and efficient hand torch, which will give full power in any position. The body is a single casting without seams and will stand rough handling. It is light in weight, and has no washers, pump or loose parts. Every torch tested before shipment.

PLUMBERS' TOOLS

Plate S–5858
Ladle

2½-inch bowl, each	$0.50
3 - " " "	.60
4 - " " "	.80

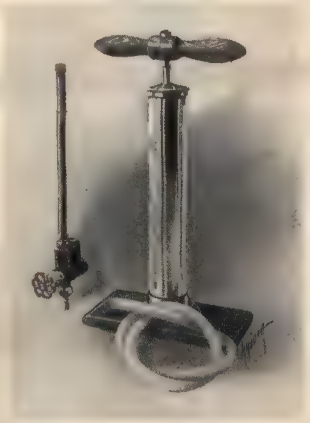


Plate S–5860
Proving pump and gauge

Pump, with tubing, each	$9.00
Mercury gauge, with valve and mercury (as shown at left), each	9.00

The mercury gauge shown above is made entirely of iron and steel, with non-breakable tube and a sealed mercury chamber, which prevents the escape and loss of mercury. The mercury column is 10 inches high.

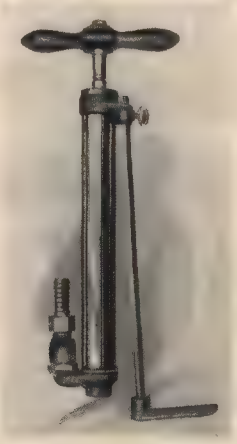


Plate S–5862
Plumber's combination pump

Each $13.50

This pump is intended for pumping out water mains, clearing waste pipes, testing soil pipe with air pressure, and proving gas mains, its many uses making it a very desirable all round tool for the plumber. It is simple in construction and light in weight, and yet heavy enough not to get out of order and to develop ample pressure. The stirrup can be turned in under the cylinder out of the way when not in use.

PLUMBERS' TOOLS

Plate S–5864
Ratchet
Plates S–5864 and S–5866.

Plate S–5866
Wing nut
Soil pipe testing plugs

	Plates S–5864 and S–5866 each	Extra rubbers, each
For 2-inch pipe	$1.00	$0.25
" 3- " "	1.25	.50
" 4- " "	1.50	.70
" 5- " "	2.00	.90
" 6- " "	2.50	1.20
" 8- " "	4.50	3.25
Wrenches to fit all sizes of ratchet plugs, each		$0.20

Plate S–5868
Asbestos joint runner
Square

No. 1, for 2, 3 and 4-inch pipe, each	$2.15
No. 2, " 4, 5 " 6- " " "	2.35
No. 3, " 6, 8 " 10- " " "	4.15

PLUMBERS' TOOLS

Plate S–5880
Spring gasket iron

No. 27, $\frac{5}{8}$ x 18 inches long, each..... $1.50

Plate S–5884
Gasket iron

No. 24, $\frac{1}{2}$ x 10 inches long, each	$0.90
No. 25, $\frac{1}{2}$ x 14 " " "	1.20
No. 26, $\frac{1}{2}$ x 16 " " "	1.35

Plate S–5886
Stub caulking iron

No. 14, outside, 4 inches long, each	$0.80
No. 15, inside, 4 " " "	.80

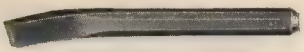


Plate S–5888
Caulking iron

No. 36, outside, 7 inches long, each	$0.90
No. 37, inside, 7 " " "	.90

Plate S–5890
Caulking iron

No. 13, 6½ inches long, each.... $0.90

Plate S–5892
Double caulking iron

No. 6, 9 inches long, each..... $1.10

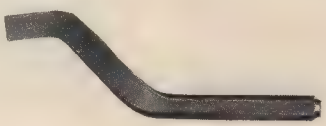


Plate S–5894
Right hand offset caulking iron

No. 11, 10 inches long, each.....	$1.35
No. 10, left hand, 10 inches long, each.....	1.35

PLUMBERS' TOOLS

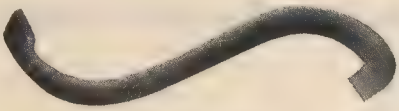


Plate S–5896

"S" shape caulking iron

No. 16, each $1.70

Plate S–5898

Ceiling caulking iron

No. 5, 14 inches long, each $3.35

Plate S–5900

Cape chisel

No. 4, each $1.00

Plate S–5902

Bent picking chisel

No. 1, each $1.00

Plate S–5904

Round nose chisel

No. 29, each $1.35

Plate S–5906

Diamond nose chisel

No. 19, each $1.00

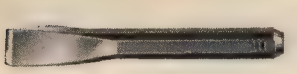


Plate S–5908

Cold chisel

No. 18, $\frac{7}{8}$-inch, each $1.20
No. 17, $\frac{1}{2}$-inch, each ..... .55

Plate S–5910

Brick chisel

No. 2, $\frac{1}{2}$-inch, each $0.90
No. 3, $\frac{3}{4}$-inch, each 1.50

PLUMBERS' TOOLS

Plate S–5912
Wood chisel

No. 33, ¾ x 10 inches, each $0.90
No 34, 1 x 11 " " 1.10

Plate S–5914
Floor chisel

No. 20, ¾x2x10 inches long, each $1.70
No. 21, ¾x2½x10 " " " 2.00
No. 22, ¾x3 x12 " " " 2.50

Plate S–5916
Star drill

No. 31, 10 inches long, drills ¾-inch hole, each..... $1.35
No. 30, 14 inches long, drills 1-inch hole, each..... 2.40

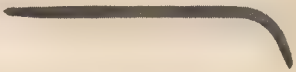


Plate S–5918
Bending pin

One end bent as shown, each... $0.70
Both ends bent, each..... .85

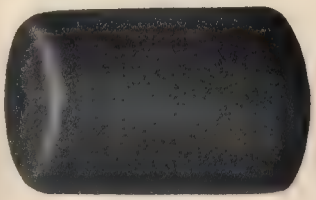


Plate S–5920
Drift plug. Hardwood

For 1 -inch lead pipe,each $0.30
" 1¼- " " " " .30
" 1½- " " " " .30

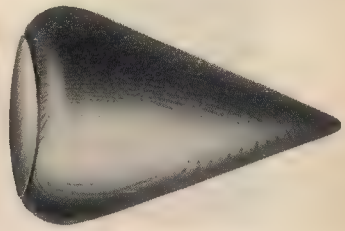


Plate S–5922
Turn pin. Hardwood

No. 2, medium, each..... $0.85

PLUMBERS' TOOLS

Plate S–5924

Tap borers

Philadelphia pattern, long, each $0.75
New York pattern, short, each ..... .90

Plate S–5926

Plumbers' candle

Per pound $0.50

Our candles are of a quality suitable for use when tinning or soldering, as well as for light.

Plate S–5928

Moleskin wiping cloth

3 x 3 inches, made up, each $0.40
3½ x 3½ inches, made up, each ..... .45

Plate S–5930

Plumbers' Friend

With wood handle, each $1.00
Without handle, each ..... .90

The rubber cup is 4 inches in diameter.

PLUMBERS' TOOLS

Plate S–5932

Bending spring

For lead pipe, inches	1¼	1½	2
Each	$1.10	$1.25	$1.50

Plate S–5934

Soldering copper

Weight, 1 pound each, per pair	$1.50
" 1½ pounds " " "	2.00

Above prices do not include wood handle

Plate S–5936

Screw driver

6-inch blade, each	$1.00
8- " " "	1.35

The blade extends all the way through the hardwood handle and can be used as a hammer to start the screw.

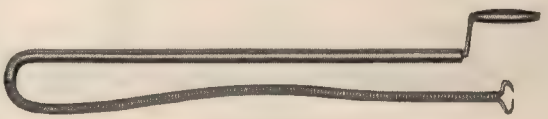


Plate S–5938

Flexible closet cleaner

With 5-foot spring, each	$3.25

This tool is designed for instantly removing obstructions from water-closet bowls. The spiral spring is very flexible and can be used for short, sharp bends. The casing is bent at the lower end to direct the spring into the outlet of the closet bowl.

PLUMBERS' TOOLS

Plate S–5940

Flat bastard file

10-inch, each	$0.60
12- " "	.80

Plate S–5942

Half-round wood rasp

10-inch, each	$1.15
12- " "	1.55

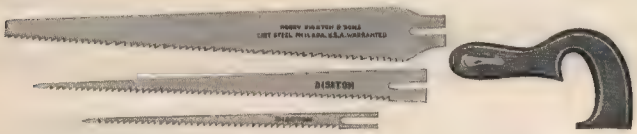


Plate S–5944

Nest of saws

Handle and 3 blades complete, each	$2.25
10-inch keyhole blade, each	.45
14- " compass " "	.50
16- " pruning " "	1.00
Handle with tightener, "	.35

Plate S–5946

Extension hack saw frame

Takes blades from 8 to 12 inches long.

With one blade, each	$1.25
Extra blades, 8 inches, per dozen	.70
" " 9 " " "	.75
" " 10 " " "	.85
" " 12 " " "	1.00

PLUMBERS' TOOLS

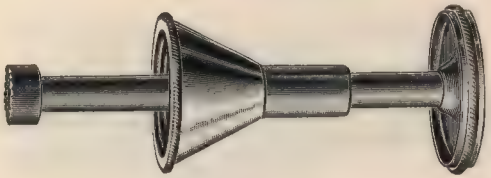


Plate S–5948
Bibb seat dresser

Nickel-plated brass complete with four cutters for $\frac{3}{8}$, $\frac{1}{2}$, $\frac{5}{8}$ and $\frac{3}{4}$-inch faucets.

Each	$2.25
Extra cutters, any size, each	.30

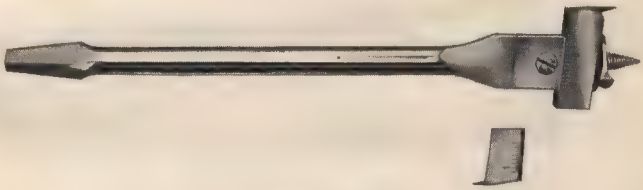


Plate S–5950
Expansion bit

No. 1, with 2 cutters, bores holes $\frac{1}{2}$ to $1\frac{1}{2}$ inches, each				$1.50
No. 2, " 2 " " " $\frac{7}{8}$ " 3 " "				2.20
Extra cutters; for holes	$\frac{1}{2}$ to $\frac{7}{8}$	$\frac{7}{8}$ to $1\frac{1}{2}$	$\frac{7}{8}$ to $1\frac{3}{4}$	$1\frac{3}{4}$ to 3
Each	$0.25	$0.35	$0.45	$0.50

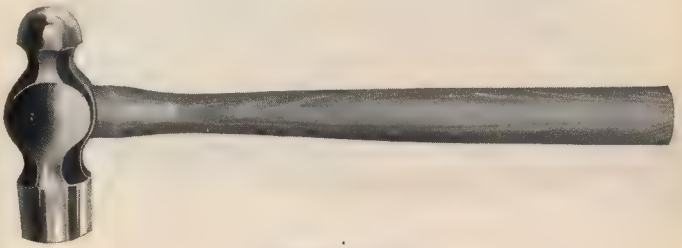


Plate S–5952
Ball pein hammer

1 -pound, each	$1.50
$1\frac{1}{2}$- " "	$1.75

PLUMBERS' TOOLS

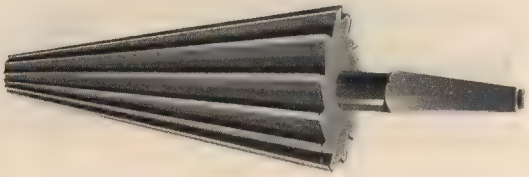


Plate S–5956

Pipe end taper reamer for brace

No. 3, ⅜ to 1½-inch pipe, each..... $4.50
No. 5, ½ " 2 - " " " 6.50

Plate S–5958

Pipe tap

For ⅛-inch pipe, each... $1.00
" ¼- " " " ... 1.20
" ⅜- " " " ... 1.60
" ½- " " " ... 2.00
" ¾- " " " ... 2.80
" 1 - " " " ... 4.40
" 1¼- " " " ... 5.00
" 1½- " " " ... 6.60

Plate S–5960

Steel oil can

Each..... $0.50

Made of steel, with spring steel bottom and will withstand rough usage.

PLUMBERS' TOOLS

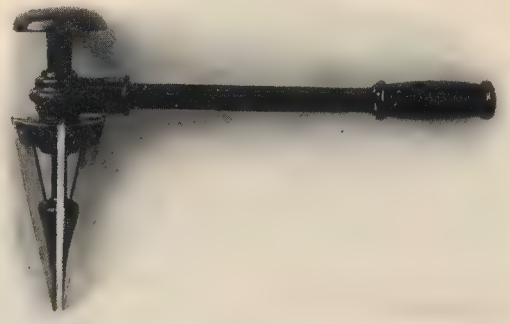


Plate S–5962

Pipe end taper reamer with handle, for 3-inch pipe and smaller

With ratchet handle, each..... $7.50
With plain handle, each..... 5.40

Plate S–5964

Leather tool bag

20 x 8-inch black leather bag, extra quality, each..... $9.50

The above bag is made of heavy leather and has shoulder strap firmly attached. It provides the plumber a convenient means for carrying tools, etc., and prevents them from becoming lost.

PLUMBERS' TOOLS

Plate S–5966

Armstrong pattern adjustable stock and dies

Nos. 1, 2 and 2½ stocks are packed in a hardwood box as shown.

Number	1	2	2½
Threads pipe, inches	⅛ to ½	¼ to 1	½ to 1¼
Stock and dies, complete, each	$9.00	$12.00	$14.00
Stock only, each	3.25	4.00	5.25
Extra dies, right or left, per set	1.60	2.00	3.50
Extra bushings, each	.30	.40	.60
Extra wrenches, each	.20	.25	.25
Extra collar screws, each	.25	.30	.35
Adjusting screws, each	.20	.20	.35
Thumb screw, each	.20	.30	.30
Handles	.75 pair	1.25 pair	1.25 pair

Plate S–5968

Beaverette adjustable stock and dies

No. 6, threads ¼ to ¾-inch pipe, each $15.00
Extra dies, (⅛), (¼ and ⅜), or (½ and ¾) right or left hand, per set 3.00

Two sets of dies, one threading ¼ and ⅜ and the other threading ½ and ¾-inch pipe, are held in this stock at the same time. Either set can be brought into use by means of a single cam, making a complete self-contained tool with no loose parts to get lost and no time wasted in inserting new dies or bushings.

PLUMBERS' TOOLS

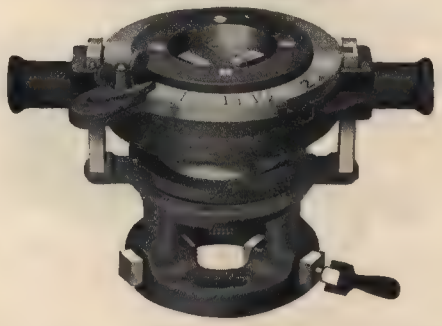


Plate S—5970

Beaver adjustable stock and dies

No. 25 (as shown), threads 1 to 2-inch pipe, each $30.00
No. 26, with ratchet, threads 1 to 2-inch pipe, each 35.00

Nos. 25 and 26 have only a single set of dies which is adjustable to cut all four sizes without changing.

Made right and left hand; extra dies, per set $3.50

These dies are narrow and receding, with only half as many teeth as common dies, reducing the friction accordingly. The thread is started at full depth, a cam automatically reducing the depth to secure the proper taper, and thus the cutting is easier with each succeeding turn.

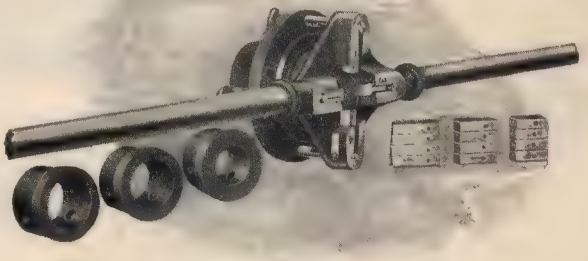


Plate S—5972

Toledo adjustable stock and dies

No. 0, threads $\frac{1}{8}$ to $\frac{3}{4}$-inch pipe, each $16.00
Extra dies, $\frac{1}{8}$, ($\frac{1}{4}$ and $\frac{3}{8}$), ($\frac{1}{2}$ and $\frac{3}{4}$) inch per set 2.50
No. 1 (as shown), threads 1 to 2-inch pipe, each 24.00
Extra dies, 1, $1\frac{1}{4}$, $1\frac{1}{2}$ or 2-inch size, per set 2.50
No. 10, threads 1 to 2-inch pipe, each 28.00
Extra dies, right hand, single set (will cut all 4 sizes) 2.75

The No. 10 Toledo stock will thread all four sizes of pipe with one set of dies and is entirely self-contained, there being no loose parts. The No. 0 uses one set of dies for $\frac{1}{8}$-inch pipe, another set for $\frac{1}{4}$ and $\frac{3}{8}$-inch pipe, and a third set for $\frac{1}{2}$ and $\frac{3}{4}$-inch pipe. The No. 1 requires a separate set of dies for each size of pipe.

PLUMBERS' TOOLS

Plate S–5974

Toledo adjustable ratchet stock and dies

No. 1½R, threads 2½ and 3-inch pipe, each..... $50.00
Extra dies, 2½ or 3-inch, per set..... 4.00

This machine operates with a ratchet, and threads easily. It is ruggedly built.

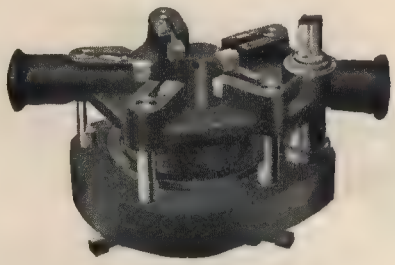


Plate S–5976

Toledo adjustable geared stock with dies

No. 2 (as shown), threads 2½ to 4-inch pipe, each..... $100.00
Extra dies, 2½, 3, 3½ or 4-inch size, per set..... 8.00

The No. 2 threads up to 4-inch quickly and easily with one operator. The machine is compactly built, light, and will be found thoroughly satisfactory.

PLUMBERS' TOOLS

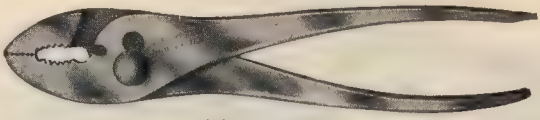


Plate S–5980
Nickel-plated combination pliers

6¾ inches long, each	$1.25
8 " " "	1.50
10 " " "	1.75

A very convenient and useful tool, combining pliers (two sizes), wire cutter and screw driver.

No.	Cuts Pipe	Each
1	⅛ to 1 in.	$ 4.50
2	⅛ to 2 ins.	6.00
3	1½ to 3 "	10.00
4	2½ to 4 "	20.00
5	4 to 6 "	30.00

Especially suitable for close work where it is impossible to revolve the cutter entirely around the pipe.

Plate S–5982
Three-wheel pipe cutter
Barnes pattern

Plate S–5984
Trimo pipe cutter

No.	Cuts pipe	Each
1	⅛ to 1¼ inches	$ 4.50
2	¼ to 2 "	6.00
3	1 to 3 "	10.00

Built for hard work, no threads in the frame or roll block to wear out. Can be used with three wheels, or with one wheel and rollers.

Repair parts for pipe cutters

BARNES PATTERN

Number	1	2	3	4	5
Wheels, per dozen	$3.00	$3.60	$4.80	$6.00	$9.00
Pins, per dozen	1.00	1.00	1.00	2.00	2.00
Body, each	1.75	2.60	4.55	9.50	13.75
Slide and wheel, each	.75	1.00	2.00	4.50	7.00
Handle and screw, each	1.00	1.25	2.25	4.50	7.00

TRIMO

Number	1	2	3
Wheels, per dozen	$4.80	$4.80	$6.00
Pins with cotter pins, per dozen	1.30	1.30	1.30
Rollers, per dozen	3.60	3.60	4.80
Block, each	1.25	1.25	2.25

Number	1	2	3
Frame, each	$2.25	$2.50	$3.25
Handle screw, each	1.00	1.25	2.00
Handle, each	.50	.50	.50
Nuts, each	.35	.35	.40

The very best grade of tool steel is used in the wheels and pins of the above cutters; the cutters as well as all repair parts are guaranteed to be of the highest quality.

PLUMBERS' TOOLS

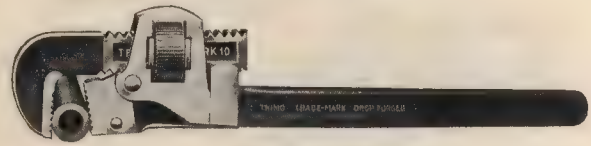


Plate S–5986
Trimo

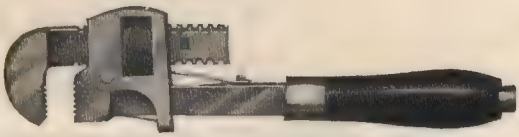


Plate S–5988
Stillson

Plate S-5986—Trimo pipe wrench or Plate S-5988—Stillson pipe wrench

6-inch, takes $\frac{1}{8}$ to $\frac{1}{2}$-inch pipe, each	$2.00
8- " " $\frac{1}{8}$ to $\frac{3}{4}$- " " "	2.25
10- " " $\frac{1}{8}$ to 1 - " " "	2.50
14- " " $\frac{1}{4}$ to 1$\frac{1}{2}$- " " "	3.50
18- " " $\frac{1}{4}$ to 2 - " " "	5.00
24- " " $\frac{1}{4}$ to 2$\frac{1}{2}$- " " "	7.25
36- " " $\frac{1}{2}$ to 3$\frac{1}{2}$- " " "	13.50

Stillson wrenches, sizes 10-inch and 14-inch, can be furnished with either wood or steel handle; smaller sizes have wood handle; larger sizes have steel handle.

Repair parts for Trimo wrench

Size of wrenches, inches..	6	8	10	14	18	24	36
Movable jaw, each.....	$0.75	$0.80	$0.85	$1.15	$1.75	$2.25	$4.35
Frame, each.....	.38	.42	.50	.60	.75	.95	1.70
Inserted jaw, each.....	.35	.40	.50	.60	.70	.80	1.10
Nut, each.....	.12	.15	.20	.30	.35	.55	1.10
Jaw, or frame pin, each..	.03	.03	.04	.04	.04	.04	.05
Spring, each.....	.03	.03	.03	.03	.04	.04	.04

Repair parts for Stillson wrench

Size of wrench, inches....	6	8	10	14	18	24	36
Jaw, each.....	$0.75	$0.80	$0.85	$1.15	$1.75	$2.25	$4.35
Frame, each.....	.38	.42	.50	.60	.75	.95	1.70
Nut, each.....	.12	.15	.20	.30	.35	.55	1.10
Wood handle, each.....	.16	.16	.18	.25	—	—	—
Steel handle bar, each....	.95	1.00	1.10	1.50	2.25	3.50	7.00
Spring, each.....	.10	.10	.10	.10	.10	.11	.13
Frame pin, each.....	.03	.03	.04	.04	.04	.04	.05

PLUMBERS' TOOLS

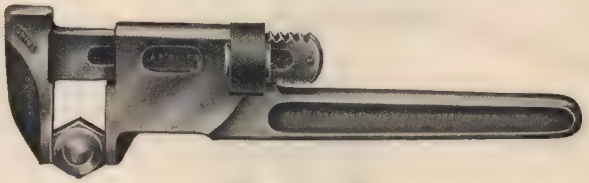


Plate S–5990

Trimo Monkey Wrench

Sizes, inches	6	8	10	12	15
Each	$1.25	$1.50	$1.85	$2.35	$3.15

This wrench is of improved design, having hammer head, lipped mouth and a nut guard which keeps the wrench in adjustment by preventing the nut from turning when thrown down.

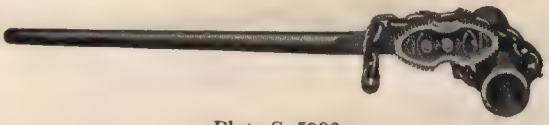


Plate S–5992

Vulcan wrench

No. 32 takes ¼ to 2½-inch pipe, each	$5.00	Extra jaws, per pair	$2.75
		Extra chain, each	1.50
No. 33 " ⅜ " 4 " " "	7.00	Extra jaws, per pair	4.00
		Extra chain, each	2.50
No. 33½ " 1 " 6 " " "	9.00	Extra jaws, per pair	4.75
		Extra chain, each	3.50

Vulcan wrenches are equipped with double ended reversible jaws, which can be readily turned when teeth first in use become worn. Every part is made from wrought steel and is interchangeable. The strength of these tools is unsurpassed.

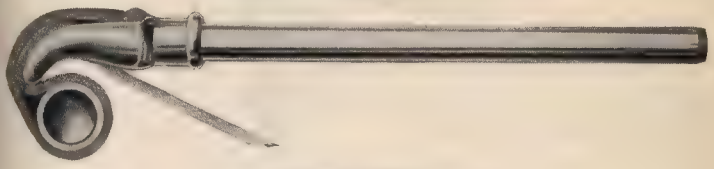


Plate S–5994

Nickel-plated strap wrench

For polished or nickel-plated pipe and tubing

12-inch, takes pipe from ⅛ to 2 inches, each	$1.50
Extra straps, each	.50

This tool is invaluable for holding all kinds of nickel-plated pipe, polished pipe or tubing without marring; rosin, whiting, or chalk should be used on the strap to prevent its slipping.

PLUMBERS' TOOLS

Plate S–5996
Self-locking hinged pipe vise

No. 1, holds $\frac{1}{8}$ to $2\frac{1}{2}$-inch pipe, each... $5.00; extra jaws, per set $1.75
No. 2, " $\frac{1}{8}$ " $3\frac{1}{2}$- " " " ... 7.50; " " " " 2.50
No. 3, " $\frac{1}{8}$ " $4\frac{1}{2}$- " " " ... 11.00; " " " " 3.50

The jaws are milled from solid tool steel bars, carefully hardened, tempered in oil to give toughness and each one is tested.

Plate S–5998
Vulcan chain pipe vise

Number	1	2	3
Takes pipe, inches	$\frac{1}{8}$ to 2	$\frac{1}{4}$ to 4	$\frac{3}{8}$ to 8
Each	$3.50	$7.50	$18.00
Jaws	1.50	3.50	9.00
Chain with screw	1.25	2.40	6.00
Screw	.40	.70	1.25
Handle and nut	1.10	2.10	3.50
Nut	.70	1.35	2.00

DECIMAL EQUIVALENTS

1/64	.015625
1/32	.03125
3/64	.046875
1/16	.0625
5/64	.078125
3/32	.09375
7/64	.109375
1/8	.125
9/64	.140625
5/32	.15625
11/64	.171875
3/16	.1875
13/64	.203125
7/32	.21875
15/64	.234375
1/4	.25
17/64	.265625
9/32	.28125
19/64	.296875
5/16	.3125
21/64	.328125
11/32	.34375
23/64	.359375
3/8	.375
25/64	.390625
13/32	.40625
27/64	.421875
7/16	.4375
29/64	.453125
15/32	.46875
31/64	.484375
1/2	.5
33/64	.515625
17/32	.53125
35/64	.546875
9/16	.5625
37/64	.578125
19/32	.59375
39/64	.609375
5/8	.625
41/64	.640625
21/32	.65625
43/64	.671875
11/16	.6875
45/64	.703125
23/32	.71875
47/64	.734375
3/4	.75
49/64	.765625
25/32	.78125
51/64	.796875
13/16	.8125
53/64	.828125
27/32	.84375
55/64	.859375
7/8	.875
57/64	.890625
29/32	.90625
59/64	.921875
15/16	.9375
61/64	.953125
31/32	.96875
63/64	.984375

RULES FOR MEASURING AREAS AND CONTENTS

Area of triangle = base × ½ altitude.

Area of a parallelogram = base × altitude.

Area of a trapezoid = altitude × ½ the sum of parallel sides.

Area of a trapezium: Divide into two triangles and find area of the triangles.

Circumference of circle = diameter × 3.1416.

Diameter of circle = circumference × .3183.

Area of circle = square of diameter × .7854.

Area of sector of circle = length of arc × ½ the radius.

Area of segment of circle = area of sector of equal radius,—area of triangle, when the segment is less, and + area of triangle, when the segment is greater than the semicircle.

Area of circle ring = diameter of the two circles × difference of diameter and that product by .7854.

Side of square that shall equal area of circle = diameter × .8862, or circumference × .2821.

Diameter of circle that shall contain area of a given square = side of square × 1.1284.

Area of an ellipse = product of two diameters × .7854.

Area of parabola = base × ⅔ altitude.

Area of regular polygon = sum of its sides × perpendicular from its center to one of its sides ÷ 2.

Surface of cylinder or prism = areas of both ends + length × circumference.

Contents of cylinder or prism = area of end × length.

Surface of sphere = diameter × circumference.

Contents of sphere = diameter × .5236.

Contents of segment of sphere = (height + three times of square radius of base) × (height × .5236).

Surface of pyramid or cone = circumference of base × ½ of the slant height + area of the base.

Contents of pyramid or cone = area of base × ⅓ altitude.

Contents of a wedge = area of base × ½ altitude.

CIRCUMFERENCE OF CIRCLES

Diam.	Circumference	Diam.	Circumference	Diam.	Circumference	Diam.	Circumference
⅛	.3927	10	31.416	30	94.248	65	204.204
¼	.7854	½	32.987	31	97.389	66	207.345
⅜	1.1781	11	34.558	32	100.531	67	210.487
½	1.5708	½	36.128	33	103.673	68	213.628
⅝	1.9635	12	37.699	34	106.814	69	216.770
¾	2.3562	½	39.270	35	109.956	70	219.911
⅞	2.7489	13	40.841	36	113.097	71	223.053
1	3.1416	½	42.412	37	116.239	72	226.195
⅛	3.5343	14	43.982	38	119.381	73	229.336
¼	3.9270	½	45.553	39	122.522	74	232.478
⅜	4.3197	15	47.124	40	125.664	75	235.619
½	4.7124	½	48.965	41	128.805	76	238.761
⅝	5.1051	16	50.265	42	131.947	77	241.903
¾	5.4978	½	51.836	43	135.088	78	245.044
⅞	5.8905	17	53.407	44	138.230	79	248.186
2	6.2832	½	54.978	45	141.372	80	251.327
¼	7.0686	18	56.549	46	144.513	81	254.469
½	7.8540	½	58.119	47	147.655	82	257.611
¾	8.6394	19	59.690	48	150.796	83	260.752
3	9.4248	½	61.261	49	153.938	84	263.894
¼	10.210	20	62.832	50	157.080	85	267.035
½	10.996	½	64.403	51	160.221	86	270.177
¾	11.781	21	65.973	52	163.363	87	273.319
4	12.566	½	67.544	53	166.504	88	276.460
½	14.137	22	69.115	54	169.646	89	279.602
5	15.708	½	70.686	55	172.788	90	282.743
½	17.279	23	72.257	56	175.929	91	285.885
6	18.850	½	73.827	57	179.071	92	289.027
½	20.420	24	75.398	58	182.212	93	292.168
7	21.991	½	76.969	59	185.354	94	295.310
½	23.562	25	78.540	60	188.496	95	298.451
8	25.133	26	81.681	61	191.637	96	301.593
½	26.704	27	84.823	62	194.779	97	304.734
9	28.274	28	87.965	63	197.920	98	307.876
½	29.845	29	91.106	64	201.062	99	311.018

NUMBER OF GALLONS IN ROUND TANKS

Depth or Length	18-inch	24-inch	30-inch	36-inch	42-inch	48-inch	54-inch	60-inch	66-inch	72-inch
1 Inch	1.10	1.96	3.06	4.41	5.99	7.83	9.91	12.24	14.81	17.62
1 ft.	13.	23.	37.	53.	72.	94.	119.	147.	178.	211.
1½ ft.	20.	35.	55.	79.	108.	141.	179.	220.	267.	317.
2 ft.	26.	47.	73.	106.	144.	188.	238.	294.	355.	423.
2½ ft.	33.	59.	92.	132.	180.	235.	298.	367.	444.	529.
3 ft.	40.	71.	110.	159.	216.	282.	357.	441.	533.	634.
3½ ft.	46.	82.	129.	185.	252.	329.	417.	514.	622.	740.
4 ft.	53.	94.	147.	211.	288.	376.	476.	587.	711.	846.
4½ ft.	59.	106.	165.	238.	324.	423.	536.	661.	800.	952.
5 ft.	66.	118.	183.	264.	360.	470.	597.	734.	889.	1157.
5½ ft.	73.	129.	202.	291.	396.	517.	657.	808.	977.	1263.
6 ft.	79.	141.	220.	317.	432.	564.	714.	881.	1066.	1369.
7 ft.	92.	164.	257.	370.	504.	658.	833.	1028.	1244.	1580.
8 ft.	106.	188.	294.	423.	576.	752.	952.	1175.	1422.	1792.
9 ft.	119.	212.	330.	476.	648.	846.	1071.	1322.	1599.	2003.
10 ft.	132.	235.	367.	529.	720.	940.	1190.	1469.	1777.	2115.
12 ft.	157.	282.	440.	634.	864.	1128.	1428.	1762.	2133.	2537.
14 ft.	185.	329.	514.	740.	1008.	1316.	1666.	2056.	2488.	2960.
16 ft.	211.	376.	587.	846.	1152.	1504.	1904.	2350.	2844.	3383.
18 ft.	238.	423.	661.	952.	1296.	1692.	2142.	2644.	3199.	3806.
20 ft.	264.	470.	734.	1057.	1440.	1880.	2380.	2937.	3554.	4229.

One-inch Depth is given to facilitate figuring intermediate depths.

HELPFUL FACTS

Doubling the diameter of a pipe increases its capacity four times.

Double riveting is from 16 to 20 per cent stronger than single.

One cubic foot of anthracite coal weighs about 53 pounds.

One cubic foot of bituminous coal weighs from 47 to 50 pounds.

One ton of coal is equivalent to two cords of wood for steam purposes.

A gallon of water (U. S. Standard) weighs 8⅓ pounds, and contains 231 cubic inches.

There are nine square feet of heating surface to each square foot of grate surface.

A cubic foot of water contains 7½ gallons, 1,728 cubic inches, and weighs 62½ pounds.

Each nominal horsepower of a boiler requires 30 to 35 pounds of water per hour.

To sharpen dull files lay them in diluted sulphuric acid until they are eaten deep enough.

A horsepower is equivalent to raising 33,000 pounds one foot per minute, or 550 pounds one foot per second.

The average consumption of coal for steam boilers is 12 pounds per hour for each square foot of grate surface.

To find the pressure in pounds per square inch of a column of water, multiply the height of the column in feet by .434.

Steam rising from water at its boiling point (212 degrees) has a pressure equal to the atmosphere (14.7 pounds to the square inch).

To evaporate one cubic foot of water requires the consumption of 7½ pounds of ordinary coal, or about 1 pound of coal to 1 gallon of water.

WEIGHTS AND MEASURES

Troy Weight

24 grains = 1 pwt.
20 pwts. = 1 ounce.
12 ounces = 1 pound.

Used for weighing gold, silver and jewels.

Apothecaries' Weight

20 grains = 1 scruple.
3 scruples = 1 dram.
8 drams = 1 ounce.
12 ounces = 1 pound.

The ounce and pound in this are the same as in Troy weight.

Avoirdupois Weight

27 11/32 grains = 1 dram.
16 drams = 1 ounce.
16 ounces = 1 pound.
25 pounds = 1 quarter.
4 quarters = 1 cwt.
2,000 lbs. = 1 short ton.
2,240 lbs. = 1 long ton.

Dry Measure

2 pints = 1 quart.
8 quarts = 1 peck.
4 pecks = 1 bushel.
36 bushels = 1 chaldron.

Liquid Measure

4 gills = 1 pint.
2 pints = 1 quart.
4 quarts = 1 gallon.
31½ gallons = 1 barrel.
2 barrels = 1 hogshead.

Time Measure

60 seconds = 1 minute.
60 minutes = 1 hour.
24 hours = 1 day.
7 days = 1 week.
28, 29, 30 or 31 days = 1 calendar month (30 days = 1 month in computing interest).
365 days = 1 year.
366 days = 1 leap year.

Long Measure

12 inches = 1 foot.
3 feet = 1 yard.
5½ yards = 1 rod.
40 rods = 1 furlong.
8 furlongs = 1 sta. mile.
3 miles = 1 league.

Cloth Measure

2½ inches = 1 nail.
4 nails = 1 quarter.
4 quarters = 1 yard.

Square Measure

144 sq. inches = 1 sq. foot
9 sq. feet = 1 sq. yard.
30¼ sq. yards = 1 sq. rod.
40 sq. rods = 1 rood.
4 roods = 1 acre.
640 acres = 1 sq. mile.

METRIC SYSTEM OF WEIGHTS AND MEASURES

METRIC EQUIVALENTS

Linear Measure

1 centimeter = 0.3937 inch .
1 decimeter = 3.937 inches = 0.328 foot.
1 meter = 39.37 inches = 1.0936 yards.
1 dekameter = 1.9884 rods.
1 kilometer = 0.62137 mile.
1 inch = 2.54 centimeters.
1 foot = 3.048 decimeters.
1 yard = 0.9144 meter.
1 rod = 0.5029 dekameter.
1 mile = 1.6093 kilometers.

Square Measure

1 sq. centimeter = 0.1550 sq. in.
1 sq. decimeter = 0.1076 sq. ft.
1 sq. meter = 1.196 sq. yds.
1 are = 3.954 sq. rods.
1 hektar = 2.47 acres.
1 sq. kilometer = 0.386 sq. mile.
1 sq. in. = 6.452 sq. centimeters.
1 sq. ft. = 9.2903 sq. decimeters.
1 sq. yd. = 0.8361 sq. mm.
1 sq. rod = 0.2529 are.
1 acre = 0.4047 hektar.
1 sq. mile = 2.59 sq. kilometers.

Weights

1 gram = 0.0527 ounce.
1 kilogram = 2.2046 lbs.
1 metric ton = 1.1023 English tons.
1 ounce = 28.35 grams.
1 lb. = 0.4536 kilogram.
1 English ton = 0.9072 metric ton.

APPROXIMATE METRIC EQUIVALENTS

1 decimeter = 4 inches.
1 meter = 1.1 yards.
1 kilometer = $\frac{5}{8}$ of a mile.
1 hektar = $2\frac{1}{2}$ acres.
1 stere or cu. meter = $\frac{1}{4}$ of a cord.
1 liter = 1.06 qts. liquid, 0.9 qt. dry.
1 hektoliter = $2\frac{5}{8}$ bus.
1 kilogram = $2\frac{1}{5}$ lbs.
1 metric ton = 2,200 lbs.

Surveyors' Measure

79.2 inches = 1 link.
25 links = 1 rod.
4 rods = 1 chain.
10 sq. chains or 150 sq. rods = 1 acre.
640 acres = 1 sq. mile.
36 sq. miles (6 miles sq.) = 1 township.

Cubic Measure

1,728 cubic in. = 1 cubic ft.
27 cubic ft. = 1 cubic yd.
128 cubic ft. = 1 cord.
2,150.42 cubic in. = 1 standard bushel.
268.8 cubic in. = 1 standard gallon.
1 cubic ft. = about $\frac{4}{5}$ of a bushel.
128 cubic ft. = 1 cord (wood).
40 cubic ft. = 1 ton (shpg).

CONDITIONS AND GENERAL INFORMATION

ORDERS

Orders for goods not regularly carried in stock by Haines, Jones and Cadbury Company are accepted with the distinct understanding that they are not subject to cancellation for any reason whatever after work has been started on such orders.

All orders are subject to acceptance by the home office. The Haines, Jones and Cadbury Company shall not be liable for delays caused by strikes, carriers, accidents or other causes beyond its control.

To avoid error, delay and useless correspondence, customers are requested to use descriptions and plate numbers given in this catalog when ordering or asking for quotations: also to address all correspondence to the Haines, Jones and Cadbury Company and not to individuals.

PACKING, SHIPMENT, ETC.

Goods are carefully packed by experienced men, and the best approved methods are used to insure the correct filling of orders. Care should be exercised in unpacking goods, as many claims for shortage are caused by small articles being overlooked.

Goods are shipped F. O. B. carrier's car, boat or wagon, and when goods have been shipped to a customer, and have been receipted for by the Transportation Company in good condition, responsibility of the Haines, Jones and Cadbury Company ends. The Company is always ready and willing to furnish duplicate bills of lading and otherwise render assistance in making claims for damages on the Transportation Company. Shipments should be examined carefully before being accepted from the carrier.

GUARANTEE, CLAIMS AND RETURNED GOODS

We guarantee material sold, but only to the extent of supplying perfect goods for any found defective through fault of manufacture, and no claims for labor, cartage or consequential damages are to be made or allowed. Should any goods be found defective in manufacture, the measure of damage shall be the price of the defective piece and shall be payable when such defective piece is returned to Haines, Jones and Cadbury Company and found by it to be defective.

All claims for allowances must be made within ten days from receipt of bill.

No goods to be returned or credited without the consent of Haines, Jones and Cadbury Company. Material other than goods specially ordered or goods not regularly carried in stock by Haines, Jones and Cadbury Company returned when order has been properly filled will be credited less freight and 10% for handling.

Returned goods should bear the name and address of the firm returning them, who will be responsible for their condition until actually received at Haines, Jones and Cadbury Company's warehouse.

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